

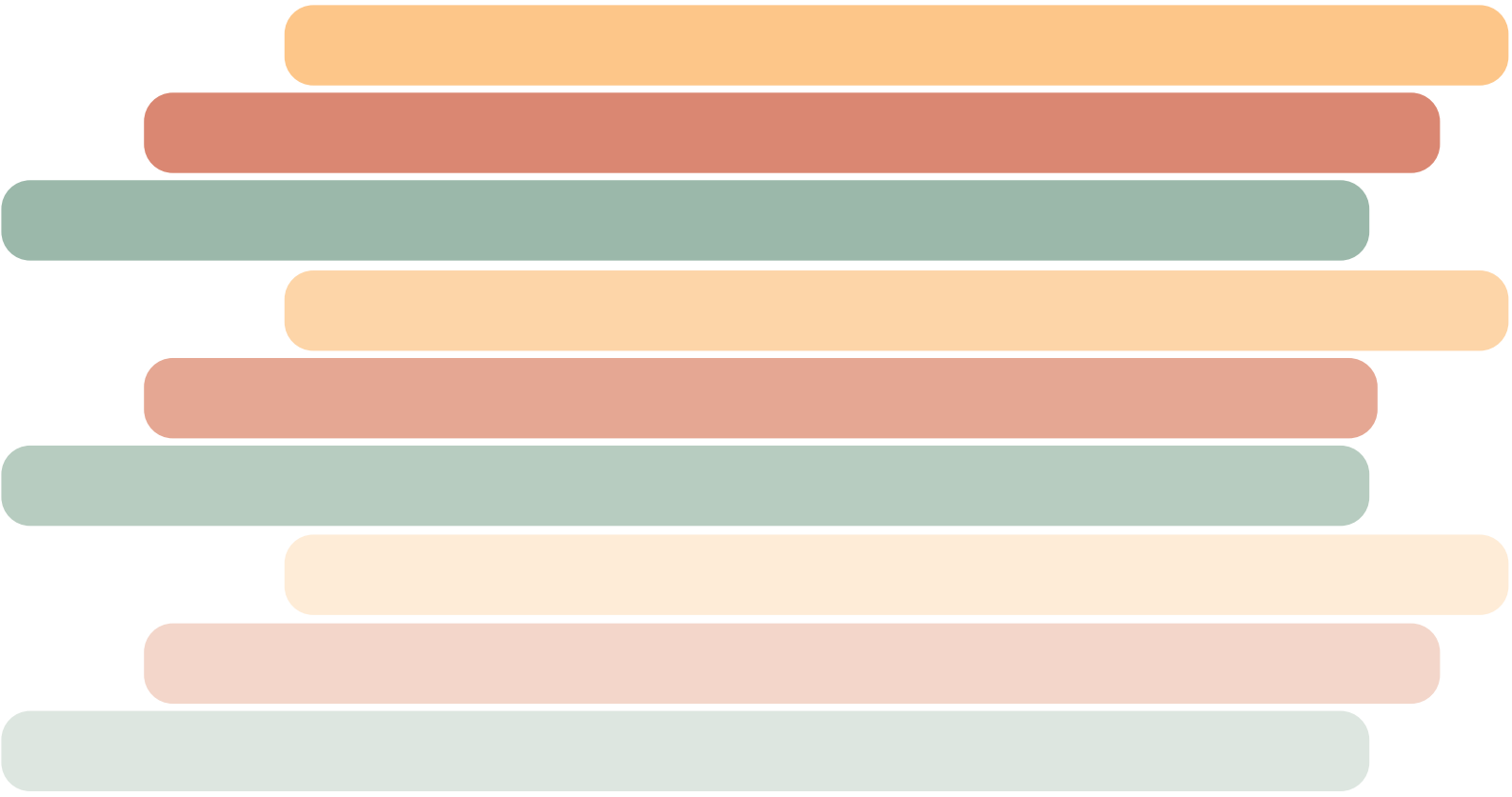
Giornale Italiano della Ricerca Educativa

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Il **Giornale Italiano della Ricerca Educativa**, organo ufficiale della **Società Italiana di Ricerca Didattica (SIRD)**, è dedicato alle metodologie della ricerca educativa e alla ricerca valutativa in educazione.

Le aree di ricerca riguardano: lo sviluppo dei curricoli, la formazione degli insegnanti, l'istruzione scolastica, universitaria e professionale, l'organizzazione e progettazione didattica, le tecnologie educative e l'e-learning, le didattiche disciplinari, la didattica per l'educazione inclusiva, le metodologie per la formazione continua, la docimologia, la valutazione e la certificazione delle competenze, la valutazione dei processi formativi, la valutazione e qualità dei sistemi formativi.

La rivista è rivolta a ricercatori, educatori, formatori e insegnanti; pubblica lavori di ricerca empirica originali, casi studio ed esperienze, studi critici e sistematici, insieme ad editoriali e brevi report relativi ai recenti sviluppi nei settori. L'obiettivo è diffondere la cultura scientifica e metodologica, incoraggiare il dibattito e stimolare nuova ricerca.

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Research fields refer to: curriculum development, teacher training, school education, higher education and vocational education and training, instructional management and design, educational technology and e-learning, subject teaching, inclusive education, lifelong learning methodologies, competences evaluation and certification, docimology, students assessment, school evaluation, teacher appraisal, system evaluation and quality.

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EDITORIALE - EDITORIAL

Il problema della validità di impatto della ricerca

PIETRO LUCISANO

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Il convegno che si è svolto a Milano, ospitato dall'Università Cattolica, ci ha visto riflettere insieme sull'utilità della ricerca educativa. Il problema era proposto nel titolo dell'incontro *A cosa serve la ricerca educativa? Il dato e il suo valore sociale*. Il tema così proposto sembrerebbe ovvio, e tuttavia merita continuare a interrogarci sul senso del nostro lavoro di ricerca e sul suo impatto. Sarebbe poi riduttivo affrontare questa riflessione solo a livello nazionale, infatti il rischio sarebbe quello di considerare il limite dell'impatto della nostra ricerca sul sistema sociale del Paese solo un problema locale dovuto alle limitate capacità di ascolto e di visione della nostra classe politica. In tutto il mondo a livello formale vengono indicati obiettivi rilevanti per i sistemi formativi e al tempo stesso in tutto il mondo vengono disattese le indicazioni di chi fa ricerca in questi settori, non solo dei pedagogisti, ma degli psicologi, dei sociologi, degli antropologi, degli economisti, ecc.

Così credo che meriti fermarsi almeno per un momento e provare a riflettere su che cosa determina la inefficacia del nostro lavoro e provare a comprendere se come società scientifica sia possibile cercare di lavorare in una direzione che consenta un maggiore apprezzamento degli esiti delle nostre ricerche.

Se è abbastanza evidente che l'interesse dei decisori politici per tematiche di rilievo strategico come l'educazione o la stessa sostenibilità rischia di essere formale e spesso scavalcato da emergenze a carattere immediato per cui sono tutti pronti a sostenere la rilevanza del sistema formativo quanto poi a sostenerne i costi e gli impegni reali le difficoltà diventano insuperabili.

Tuttavia, quello che stupisce è la nostra difficoltà a dialogare con i mondi che invece della nostra ricerca dovrebbero fruire immediatamente. Ne individuo due come prioritari tra coloro che nel sistema formativo vivono: gli insegnanti, le famiglie, gli stessi studenti una volta grandicelli e la comunità scientifica dei colleghi universitari che, pur distratti dalla priorità della ricerca, si trovano comunque a confrontarsi con le contraddizioni del sistema stesso.

Il fatto di apprezzare la crescita della nostra comunità scientifica, un graduale miglioramento della qualità dei lavori, il grande impegno dei giovani non può distrarci dalla domanda principale sui limiti del nostro lavoro.

Negli ultimi anni l'università e la ricerca hanno subito grandi pressioni che hanno portato la comunità scientifica a chiudersi in sé stessa. A ridurre gli spazi di confronto e di partecipazione in nome di una ricerca di efficienza e di qualità soprattutto formale. A produrre molto, spesso con approcci molto specializzati perdendo di vista il senso sociale del nostro lavoro. Le nostre ricerche fanno fatica a fare massa critica e risultano spesso illeggibili per i non addetti ai lavori. I ritmi di lavoro sono spesso così serrati che manca il tempo per pensare e confrontarsi e da tempo i convegni sono diventati rapide passerelle dove ciascuno presenta il suo lavoro. Mancano persino gli scontri ideologici che un tempo segnavano le grandi differenze tra diverse impostazioni del pensiero educativo. Perché, mentre si dà al merito un grande rilievo nei processi educativi, del merito non si discute più. Per evitare la discussione sul merito si sposta la ricerca su aspetti rilevanti ma marginali. L'effetto è che non si realizza più la convergenza dei ricercatori su una massa critica di argomenti ma si realizza una babele in cui il dato stesso perde il suo valore di rappresentatività e di forza, tanti dati diversi e tanti ricercatori impegnati ciascuno a sostenere il rilievo del proprio punto di vista.

Così succede che, ad esempio nel nostro convegno, tra le 419 parole chiave proposte per i 122 lavori accettati il 71% (299) ricorreva una sola volta, l'8% due. Le tre parole chiave con frequenza maggiore risultavano Inclusione (in 18 lavori), valutazione (in 12 lavori) e scuola (in 8 lavori). Come sintetizzare quello che è emerso dai lavori? Come trarne indicazioni operative?

Queste considerazioni sintetiche dovrebbero portare a riflettere sul merito della nostra ricerca su come

evitare la dispersione delle forze, su come ridare ai dati e alle evidenze una maggiore forza di impatto sociale.

E ancora sulla nostra capacità di comunicare con le scuole. Il rapporto tra ricerca educativa e scuola nel nostro Paese ha vissuto momenti migliori, negli ultimi anni è aumentata la distanza tra noi e i colleghi insegnanti, forse anche per il progressivo indebolimento delle associazioni degli insegnanti. I tentativi fatti in questi anni in cui abbiamo cercato piste comuni e abbiamo elaborato documenti comuni non ha dato i risultati sperati. Nelle scuole rimane il sospetto rispetto ad un mondo accademico che chiede collaborazione, dà consigli, ma non condivide l'impegno quotidiano delle scuole e non le sostiene.

Si tratta di cercare un nuovo punto di partenza. Credo che questo sia nell'individuare i bisogni principali e fare leva su questi, concentrando su questi il nostro lavoro a partire dall'attenzione al disagio che viviamo in questo sistema come ricercatori, insegnanti e studenti ed evidenziando come questo disagio finisca per essere alla base di un disagio sociale più ampio.

Il collegamento tra il disagio reale (quello delle scuole sgarrupate, dei bagni indecenti, dei salari inadeguati, dei voti ansiogeni, dei bassi livelli di apprendimento, degli insegnanti non formati) e i grandi temi della pace e della sostenibilità deve essere reso evidente dal nostro lavoro di ricerca. Deve potersi ricreare un'alleanza educativa tra famiglie, docenti e ricercatori, in grado di pensare in grande e al tempo stesso di avviare confronti vincenti contro l'inerzia delle amministrazioni e dei decisori politici.

Siamo consapevoli che il mondo della scuola e dell'extrascuola, il mondo dei giovani e dell'educazione contengono una forza di cambiamento capace di portare trasformazioni benefiche alla società: la nostra ricerca dovrebbe, dunque, servire a trasformare queste potenzialità in dati di fatto.

Partire dai bisogni

Negli ultimi anni ho speso gran parte della mia attività di ricerca nel realizzare un Osservatorio di ascolto degli studenti della scuola secondaria di secondo grado. Tra le tante sollecitazioni poste dai giovani ve ne propongo una che mi ha particolarmente colpito. Forse perché proprio di bisogni si tratta. Avevamo proposto ad un campione di studenti di fine scuola secondaria di secondo grado una domanda aperta che chiedeva di fornire tre suggerimenti per migliorare l'esperienza scolastica di coloro che avrebbero frequentato la scuola dopo di loro. Tra i tanti argomenti di rilievo proposti (maggiore didattica attiva, formazione e empatia degli insegnanti, attualità dei temi trattati, ecc.) uno risultava curiosamente ricorrente e dava l'idea che dai tempi in cui io frequentavo le scuole secondarie nulla fosse cambiato: lo stato deplorabile dei servizi igienici. Più recentemente riproponendo la stessa domanda in uno strumento nuovo volto a misurare il benessere educativo degli studenti in due scuole secondarie importanti del nostro territorio il tema si è riproposto con forza.

Ne ho cominciato a parlare e ogni volta ho avuto conferme di una situazione di degrado alla quale le scuole e la dirigenza non riescono a dare una risposta adeguata. È vero che le norme sull'edilizia scolastica relative ai servizi igienici risalgono al 1975 e che risultano assai arretrate rispetto alla normativa sui luoghi di lavoro prevista per altre categorie, ma è altrettanto vero che la qualità dei bagni risponde ad una questione di dignità. Proprio in questi termini lamentava in un suo intervento a Roma il collega francese Philippe Meirieu lo stato dei bagni nelle scuole francesi.

Riporto alcune delle indicazioni degli studenti: "Bagni che funzionino, con le porte possibilmente non rotte e che scarichino, con carta igienica, sapone e assorbenti", "Bagni senza porte sfasciate e dei cestini per gli assorbenti sarebbero graditi, anche del sapone e della carta non sarebbero male", "Maggior pulizia, se si vive in un ambiente sporco e malcurato, la cosa affligge negativamente di chi ci vive", "Attenzione al decoro degli ambienti in modo da essere di insegnamento per i ragazzi".

Nelle mie conversazioni successive ho appreso che in molte scuole non si riesce a mantenere la carta igienica nei bagni perché gli studenti la vandalizzano, così la possibilità di ottenere carta igienica in caso di bisogno è demandata ai bidelli, così come viene loro demandata la distribuzione di assorbenti.

È indiscutibile che usufruire di servizi igienici decorosi risponda a uno dei bisogni primari di un individuo e che disporne sia un diritto.

Alcuni colleghi dirigenti mi hanno fatto osservare che lo stato dei servizi in realtà risente dell'inciviltà degli studenti stessi. Ma questa osservazione rimanda a due considerazioni: la prima, un sistema educativo non in grado di insegnare un uso civile dei servizi igienici cosa altro può insegnare, la seconda come mai i bambini che nelle scuole dell'infanzia, forse per l'eredità Montessori, curano e tengono in ordine i servizi

igienici, poi perdano queste abitudini di rispetto e di cura negli anni successivi. Facciamo un gran parlare di educazione al civismo ma quale insegnamento civico siamo in grado di dare se non partiamo dal rispetto di un ambiente necessario a tutti?

Mi chiedo se i genitori, oggi rappresentati negli organismi direttivi delle scuole di ogni ordine e grado, si siano mai occupati di visitare i bagni delle scuole dei propri figli e se abbiano ritenuto di dover intervenire o invece si siano limitati a prendere atto che questa situazione fa parte degli “immutabili” della nostra società, salvo poi confessarsi quando parli di queste cose di aver dovuto portare la propria figlia dal dottore dato che non andava al bagno a scuola perché le faceva schifo. Stiamo facendo crescere generazioni di costipati. Forse gli psicologi possono aiutarci a comprenderne le conseguenze.

Nella difficoltà di una consultazione più ampia ho interrogato ChatGPT su “quali sono le conseguenze educative di scuole che hanno servizi igienici indecenti e poco fruibili”. Ecco la risposta.

Le conseguenze educative di scuole con servizi igienici indecenti e poco fruibili possono essere significative e avere un impatto negativo sul benessere degli studenti e sul loro apprendimento. Alcune delle conseguenze più rilevanti includono:

1. Salute e benessere degli studenti:

- **Problemi di salute:** Servizi igienici inadeguati possono favorire la diffusione di malattie e infezioni tra gli studenti, compromettendo la loro salute.
- **Assenteismo:** Studenti potrebbero evitare la scuola per paura di utilizzare servizi igienici mal-serviti, portando a un aumento dell'assenteismo.

2. Concentrazione e apprendimento:

- **Distrazioni:** Servizi igienici sporchi o malfunzionanti possono distrarre gli studenti durante le lezioni, compromettendo la loro capacità di concentrazione e apprendimento.
- **Discomfort:** Studenti che evitano di utilizzare i servizi igienici a scuola potrebbero soffrire di disagio fisico, il che può influire sulla loro capacità di partecipare attivamente alle lezioni.

3. Ambiente scolastico:

- **Atmosfera generale:** Servizi igienici indecenti possono contribuire a un ambiente scolastico generale poco salubre, influenzando il morale degli studenti e del personale.
- **Igiene personale:** L'accesso limitato a servizi igienici puliti può compromettere le abitudini di igiene personale degli studenti.

4. Impatto psicologico:

- **Imbarazzo e ansia:** Servizi igienici in cattive condizioni possono causare imbarazzo e ansia agli studenti, specialmente quelli più giovani o vulnerabili, influenzando negativamente la loro autostima.

5. Ambiente educativo complessivo:

- **Immagine della scuola:** Servizi igienici indecenti possono contribuire a una cattiva immagine della scuola, influenzando la reputazione della stessa e la percezione che gli studenti, i genitori e la comunità hanno nei confronti dell'istituzione.

Per migliorare l'ambiente educativo complessivo e garantire un apprendimento efficace, è essenziale che le scuole forniscano servizi igienici adeguati, puliti e facilmente accessibili per tutti gli studenti. Ciò contribuirà non solo al loro benessere fisico e mentale, ma anche a creare un ambiente scolastico più positivo e propizio all'apprendimento.

Ovviamente a scuola e anche in università, dove la situazione non è poi così diversa, accanto ai bagni degli studenti, ci sono quelli dei professori, più custoditi e appena più decenti e spesso il bagno del dirigente che finalmente assomiglia al bagno di una abitazione civile.

Forse non è dalla ricerca sui bagni che deve partire lo sforzo di rendere efficiente il nostro sistema educativo, ma dovremmo trovare il modo di scegliere alcuni temi altrettanto concreti e su questi trovare la forza per un cambiamento attraverso un lavoro che coinvolga l'impegno dei colleghi insegnanti e delle famiglie e dei colleghi che lavorano nelle altre scienze sociali.

Enhancing critical thinking in Ugandan secondary school: Teacher professional development action research

Migliorare il pensiero critico nella scuola secondaria ugandese: Uno studio sullo sviluppo professionale degli insegnanti

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Abstract

Critical thinking is recognized as key in any society. However, the Ugandan system of education is not helping students to become critical thinkers; the education is superficial and uncritically based on rote learning. The main objective of this study was to investigate and document how Ugandan secondary school teachers could be supported in explicitly pursuing the goal of fostering students' critical thinking. This professional development action research showed that the instructional support coaching system contributed to enhancing the teachers' professional and pedagogical capacity, led them to transform their instructional planning process, and shifted their beliefs with regard to curricula and learning theories.

Keywords: Critical Thinking; Teacher Professional Development; Action Research; Instructional Design; Uganda.

Riassunto

Il pensiero critico è riconosciuto come fondamentale in ogni società. Tuttavia, il sistema educativo ugandese non aiuta gli studenti a diventare pensatori critici; l'educazione è superficiale e basata acriticamente sull'apprendimento meccanico. L'obiettivo principale di questo studio era indagare e documentare come gli insegnanti delle scuole secondarie ugandesi potessero essere supportati nel perseguire esplicitamente l'obiettivo di promuovere il pensiero critico degli studenti. Questo studio di ricerca-formazione ha dimostrato che il sistema di supporto didattico ha contribuito a migliorare la capacità professionale e pedagogica degli insegnanti, li ha portati a trasformare il loro processo di pianificazione didattica e ha cambiato le loro convinzioni in merito ai curricula e alle teorie dell'apprendimento.

Parole chiave: Pensiero Critico; Sviluppo Professionale Degli Insegnanti; Ricerca-Formazione; Pianificazione; Uganda.

1. Introduction

Critical thinking is a key skill that is becoming increasingly vital in our modern society (Ahern et al., 2019; Davies & Barnett, 2015; Dominguez & Payan-Carreira, 2019; Dumitru et al., 2018; Liu et al., 2014). However, research in Western countries has found a dearth of critical thinking skills in the workforce (Davies & Barnett, 2015; Dumitru et al., 2018; Liu et al., 2014). Similarly, in the Ugandan context, the Ministry of Education and Sports (2004) highlighted the fact that students were not acquiring skills they needed to participate as active citizens and make informed decisions (NCDC, 2019).

It has been suggested that the methods of teaching used in Uganda do not foster deep understanding of the subject and do not help learners to understand the connection between the subject and their personal life; the education is superficial and uncritically based on mere rote learning (Allen et al., 2016; Mitana et al., 2018, 2021). Even though policymakers and educators in Uganda understand the importance of developing critical thinking in students, they seem to lack specific strategies to foster its growth and the tools to measure its effect on student learning (Giacomazzi, 2021). Therefore, it is relevant to investigate how critical thinking can be enhanced in students in the Ugandan context, and how teachers can be supported in incorporating critical thinking in their teaching objectives.

1.1 Teaching Critical Thinking

Embedding critical thinking in the school curricula is an excellent first step (Costa & Kallick, 2009; Dwyer et al., 2014). However, this might not suffice if teachers are not supported with adequate professional development opportunities (Perkins & Murphy, 2006; Stein & Haynes, 2011).

Fostering student critical thinking requires a shift from teacher-centred to learner-centred approaches (Ennis, 2018; Scriven & Blair, 2019), with a greater emphasis on cognitive and metacognitive factors, motivational and dispositional elements, and attention to social and individual learner differences (Murphy & Alexander, 2000). Such a pedagogical shift is a challenging and demanding experience for teachers (Ennis, 2018; Scriven & Blair, 2019), and requires a transformative and supportive learning environment and a school climate that encourages collaboration, self-reflection, and free expression of ideas (Fisher & Frey, 2015; Giannakopoulos & Buckley, 2009; Marin & Halpern, 2011; Woolfolk Hoy et al., 2013).

Moreover, research has shown the importance of furthering teachers' own ability to think critically, while also enhancing their capacity to model critical thinking and implement pedagogical practices aligned with this specific goal (Elder, 2012; Paul et al., 1990; Paul & Elder, 2005). Supporting teachers in discovering how critical thinking can be incorporated in lesson plans and providing the opportunity to visit classrooms where effective pedagogical practices are already implemented have proven to be useful professional development approaches (Aspfors & Fransson, 2015; Paul & Elder, 2005). Professional learning communities have also proven to be effective in fostering teacher collaboration and a move towards learner-centred approaches and instructional practices that can support reflection and analysis (Hipp et al., 2008).

Additional factors contributing to the success of teacher education programs aimed at enhancing students' critical thinking have recently been summarized in two systematic program reviews (Dunst et al., 2020; Lorencová et al., 2019); they can be organized into four main categories. The first set of factors, the most relevant for this study, relate to the structure of the professional development program: clarity about course content, the use of a mix of infusion and immersion approaches, and prolonging the duration of the program (well beyond the standard 10 weeks) were found to have the highest impact on fostering teachers' critical thinking (Dunst et al., 2020; Lorencová et al., 2019).

The second category includes factors that are linked to instructors' preparation and the strategies they use, such as the role of questioning in the instructional process, instructors' flexibility and responsiveness, and their ability, as learning coaches, to provide clear directions on how to collaborate with colleagues and how to effectively analyse their learning experience (Dunst et al., 2020).

The third category includes student-teacher-related factors such as their dispositions (e.g., willingness to engage in discussions, openness to criticism and to learning from others), self-confidence, and self-awareness (Lorencová et al., 2019).

The last category includes proactive approaches to supporting student-teacher involvement, such as a well-thought-out strategy mix that fosters collaboration among student-teachers and the incorporation of self-assessment strategies and metacognitive strategies (Lorenková et al., 2019).

1.2 The Ugandan Education System

Uganda's education system consists of seven years of primary education followed by a four-year lower secondary cycle and a two-year upper secondary cycle. On completing primary education, students can join lower secondary school, take a three-year craft course in a technical school, or pursue other options (Ministry of Education and Sports, 2017). Successful lower secondary graduates can enter upper secondary school, technical institutes, primary teacher colleges, or department training colleges. Upper secondary graduates can choose from universities, national teacher's colleges, technical colleges, or department training colleges, providing flexibility in course selection.

The education system in Uganda aims to eradicate illiteracy and equip individuals with basic skills and knowledge for self-development, better health, and continued learning. Various reform efforts have been made, but the Ministry of Education and Sports acknowledges that students lack the competences to contribute actively to society. In the context of these reforms, the role of teachers in shaping the quality of education is well-recognized, as reflected in various education policy documents (Ministry of Education and Sports, 2019).

In Uganda, there are five National Teacher Colleges owned and funded by the government, as well as 10 public and 41 private universities offering teacher education programs. The development of teacher education curricula is handled by different entities. Curricula for teacher education courses offered by other universities are developed by the respective institutions and accredited by the Uganda National Council of Higher Education.

Some studies have identified gaps in the implementation of teacher education curricula across all levels, emphasizing a greater focus on content over methodology in teacher colleges, insufficient attention to new subjects introduced in primary and secondary schools, limited use of learner-centered teaching techniques by graduates, inadequate knowledge of materials, and a lack of emphasis on specialization (Ministry of Education and Sports, 2020).

The new National Teacher Policy (Ministry of Education and Sports, 2019) proposes a vast reform in the teacher education and in teachers' continuous professional development. The policy establishes a National Institute of Teacher Education and promotes the integration of crosscutting concerns into teacher training, administration, and practice. These entities are tasked with coordinating key activities aimed at professionalizing the teaching profession in Uganda but the reform is still at its initial stages of implementation.

1.3 Background of the Study

This study originated from a request for support by the administration of a high school based in the suburbs of Kampala. At the start of the study in 2019, it was clear that Ugandan secondary schools were facing a momentous change. The National Curriculum Development Centre (NCDC) had just issued the new Lower Secondary School Framework, which introduced a competency-based curriculum for secondary school education (NCDC, 2019).

2. Research Problem, Objective, and Questions

Because teachers cannot teach what they do not possess (Applegate & Applegate, 2004), in order to foster students' critical thinking, it is paramount to first help teachers develop their capacity to think critically and appreciate its relevance to the teaching-learning process. How to teach and model critical thinking in the Ugandan or sub-Saharan classroom context is still unexplored by the research (Giacomazzi et al., 2022).

2.1 Research Objective

The main objective of this study was to investigate and document how Ugandan secondary school teachers can be supported in explicitly pursuing the goal of fostering student critical thinking. More specifically the research aimed to generate transformative learning (Mezirow, 1991) among secondary teachers to enhance their ability to design and implement lessons that develop critical thinking within specific subjects and to identify the main components of a sustained professional development model that could serve this purpose.

2.2 Research Questions

This study focused on the following research questions:

- What elements do teachers and researchers include when collaboratively constructing a professional development intervention to support secondary school teachers in developing critical thinking in their students?
- Was the professional development intervention effective in enhancing teachers' ability to foster students' capacity to think critically?

3. Methodology and Methods

This study adopted a qualitative research approach to understand the transformations in teachers' pedagogical practices while developing and implementing lesson plans designed to provoke and nurture critical thinking among their students. More specifically, it used participatory research and a *professional development action research* design (Prud'homme et al., 2011; Zecca, 2018).

The *professional development action research* model (*Recherche-Action-Formation*) is experientially-based and adopts a participatory framework, with practitioners and researchers working together to solve problems concerning the development of educational practice. It is a methodological approach apt for conducting research primarily and explicitly oriented towards training and transforming educational and pedagogical practice while promoting teacher reflexivity (Cardarello, 2018; Prud'homme et al., 2011; Vannini, 2018; Zecca, 2018).

3.1 Participants

Sixteen teachers at a secondary school in Kira, Wakiso District, Central Uganda participated in the study. The school has a population of 452 students and serves the most underprivileged communities of the slum areas in the suburbs of Kampala. It has a faculty of 35 teachers. Site selection was based on convenience (Patton, 1990), as the researcher and the school administrators and teachers had an established collaborative working relationship. The school administrators, in agreement with the researcher, purposefully selected (Creswell, 2007) teachers who specialized in three different subjects of instruction: English (5), mathematics (5), and history (6).

On average, the teachers were 32 years old (range 24-41) and had 8 years of teaching experience (range 2-17). One teacher had a master's degree, while the other 15 teachers had a bachelor's degree.

Further, 72 Senior-1 students (36 males, 36 females) were randomly selected among those who had participated to the lessons developed and implemented during the program, and provided their feedback on the experience. The students gave their written consent and the school administrator also had previously ensured the parents' consent.

Five school administrators participated in the research (3 males, 2 females). Three of them were also teachers and they participated in the professional development sessions.

The researcher was aided by five research assistants, who helped with data collection and data mana-

gement and participated in the coding of the data. The field work started in November 2019 and ended in May 2021.

3.2 Data Collection Methods and Tools

The following sources of data and tools were used to address the first research question:

- i. Focus group discussions (FGDs): A FGD guide was developed and used during the discussions at baseline and another one was developed and used at end-line. An average of seven additional FGDs were conducted during the iterative process of coaching. One additional FGD was conducted at baseline with the school administrators. All discussions were recorded.
- ii. Teacher narratives: In order to explore the participants' perceptions of the program and support reflection on their experiences, the teachers were encouraged to reflect in writing on what they were discovering and learning about their profession.
- iii. Researcher memos: The researcher recorded memos immediately after the FGDs to capture his observations and reflections on the methodology or the content of the discussions.

The following data collection methods and tools were used to investigate the second research question:

- iv. Open-ended individual teacher interviews. Open-ended semi-structured interviews with teachers were conducted after the classroom implementation of the planned lessons to get an in-depth response concerning their reactions, perceptions, thoughts, and knowledge acquired as a result of the experience. The researcher conducted seven interviews, which lasted an average of 22 minutes each.
- v. Student FGDs: A total of 12 FGDs were conducted with Senior 1 students who had participated in the seven lessons that teachers implemented. The FGDs took place within one week from the lesson. These focus group discussions lasted 29 minutes, on average. An average of six students participated in each discussion.

Informed consent from all participants in the research was obtained. All the data were collected in English language. All recordings were stored in an online repository until they were transcribed. To enhance confirmability, every voice recording was transcribed and cross-checked by a second research assistant for accuracy. All recordings were then purged and identifiers in the transcripts were removed and replaced with pseudonyms that were kept in a secure separate file. Permission to access the datasets was granted only by the researcher.

3.3 Coding of Collected Data

ATLAS.ti (Version 8) software was used for the analysis.

Teacher narratives, transcripts of FGDs, interviews, and researcher memos were analysed using content analysis. The analysis followed a three-step process: the first step of the analysis (open coding) aimed at identifying the initial themes or concepts; the second (axial coding) created connections among the data and identified the main categories; finally, in the last stage (selective coding) the relationships that emerged were analysed and themes identified (Charmaz, 2008). To ensure confirmability, three research assistants, with experience in qualitative studies, independently coded a total of four interviews. Inter-rater agreement (Armstrong et al., 1997) was at 47% after the full coding of the first interview and at 81% after the fourth interview.

3.4 Trustworthiness

Trustworthiness of the findings of this study was established by assessing the credibility, transferability and dependability of the various data sources (Guba, 1981).

Regarding credibility, this study employed member checking, triangulation, thick descriptions and peer reviews to establish the validity of the conclusions (Creswell, 2007).

On transferability, though the size of the sample was small (Denscombe, 2014), the environmental conditions and social dynamics in the school that was selected for this study can be considered similar to other schools in the same context.

The consistency and similarity of the results across the sources related to the specific subjects chosen for this study helped in showing dependability of the findings (Guba, 1981).

4. Results

The findings of the study are organized according to the two research questions.

4.1 RQ1: Elements of the Co-constructed Professional Development Intervention

This section presents the elements that teachers and researchers included when collaboratively constructing a professional development intervention to support secondary school teachers in the development of students' critical thinking.

The Teachers' Challenges. Having a clear and shared common goal proved to be key to the success of the intervention. At the start of this study, the upcoming launch of the new Lower Secondary School Framework presented the school leaders and teachers with what was perceived as a very challenging situation. One administrator elaborated:

This new curriculum has just come out but no one knows what it really is, meaning that there are the guidelines, but these guidelines are lacking a lot of content, they are lacking the methodology, they are lacking suggestions on how to face it and how to communicate this new curriculum to the students. (FGD-B-AD01)¹.

Further, the new curriculum asked teachers to implement pedagogical approaches that foster deep learning and understanding of the subject, implying that teachers needed to deepen their own knowledge of the subject they teach through personal research: "The lack of content in the teachers' guidelines can be a provocation, but it is a provocation if it is educating you on how to research" (FGD-B-AD01).

Setting the Study Objectives: A Shared Process. The objectives of this collaboration between the teachers, the researcher and his team of assistants/facilitators were co-constructed through a negotiated procedure that started from the teachers' need to face the challenges posed by the new curriculum. As a teacher shared: "I think the main focus of the research perhaps could [be] to try to understand how the critical thinking skill can be incorporated into the different lessons that we teach" (FGD-E-EN01). One administrator commented: "I can also put myself in the shoes of the teacher... for the way I am teaching, to help students to critically think, there is need for this creativity among the teachers" (FGD-B-AD01).

The Co-constructed Professional Development Methodology. Based on a process that included sustained interactions with the teachers, reflections among the research team members, and interactions with the school administrators, the professional development intervention was designed as having three main phases: the introductory training sessions, the instructional design coaching, and the implementation of the designed lessons.

1 Labels identify the data source category (e.g., FGD=Focus Group Discussion, MT=Metacognitive reflection, IN=Interview), the specific data source (e.g., B=Baseline, E=End-line), participant category (e.g., AD=Administrator, EN=English teachers, HT= History teachers, MT=Mathematics teachers), and the specific FGD or interview (e.g., 01)

Introductory Training Sessions. The project started with a 1½-day training session, where teachers were invited to participate in two short lessons that showcased subject-specific methodologies for enhancing critical thinking. Each lesson was followed by a metacognitive session aimed at helping the teachers reflect not only on the content of the lessons, but also mostly on how they learnt during the lesson and what kind of skills they felt they were developing in the process.

At this initial stage, teachers were not introduced either to a specific conceptualization of critical thinking or to the theoretical underpinning of the pedagogical strategies used, as suggested by an administrator who was also a teacher: “I think even these trainings should be in that, in that way, that they are provoking us to think, they are helping us to be creative, that we are not spoon-fed in an actual sense” (FGD-B-AD01).

Based on this introductory training, the teachers were asked to develop lesson plans that could help learners enhance their critical thinking skills. The first teacher-designed lesson plan made it apparent that they were not guiding the students in the process of discovery; rather, students moved from one activity to the next without apparent logical connections. Thus, an operational definition of critical thinking was proposed by the researcher during a ½-day presentation, coupled with a detailed taxonomy of corresponding skills and dispositions fully aligned with those introduced by the new curriculum. The framework was based on an earlier contextualization study (Giacomazzi, 2021).

Instructional Design Coaching. During the remaining FGDs, the researcher proposed a constructivist approach to professional development, inviting teachers to choose a topic of their interest among those addressed in the first year of the new curriculum, carry out a basic online search of their topic while looking for suitable resources to be used in class, and develop a lesson plan. The goal was for teachers to formulate a key question for their lesson, identify the sources they would use, elaborate on the methods they would use, and identify the pedagogical strategies for introducing students to the topic.

Key components of the instructional design coaching were: the focus group discussions on the designed lesson plan, teachers’ teamwork, presentation and sharing of lesson plans, microteaching, and metacognitive reflection.

FGDs on the Designed Lesson Plans. These meetings had a similar structure: teachers presented the lesson plans previously prepared, and the FGD participants would comment and propose suggestions for improvement. A round of positive feedback was followed by a round of suggestions for improvements. The team of researchers/facilitators added their contributions only after the teachers’ round of feedback, encouraging deeper reflection on the designed plan. This encouraged teachers to follow the suggestions proposed by their colleagues. Apparently, their colleagues’ input sounded less judgmental and more encouraging than comments coming from the research team. The more confident the teachers became in their own abilities to carry out the task, the more capable they were of giving constructive feedback to their colleagues.

Presentation and Sharing of Lesson Plans. The teachers and the research team met on a regular basis, once every 3 to 4 weeks. For the teachers, the main objective of each meeting was to present their lesson planning work to their colleagues and the research team for feedback and suggestions for improvement. For the research team, it was an opportunity for monitoring teachers’ progress in lesson planning and advising them on how to improve their plans, but also for re-planning or re-focusing the professional development implementation strategy.

Microteaching. The microteaching was also an important component of the process. Each participating teacher had 20 minutes to teach a part of the planned lesson to their colleagues and the research team, involving them in one or more of the activities included in the lesson. The mini-lesson was meant to be comprehensive, with a clear introduction, development and conclusion.

Metacognitive Reflection. In the attempt to make teachers become more aware of their own progress, motives, task demands and cognitive resources, they were asked to reflect on how they learnt, at every step of the coaching activity. Further, they were encouraged to keep a personal journal and share it with the research team regularly. This was meant to discourage a surface approach to the learning process and, concurrently, to foster a self-directed learning approach: “I would sit and see what have I got from the entire discussion, like, what, what did I even get from writing this, from this lesson plan” (FGD-E-EN01).

Implementation of the Designed Lessons with Students. The instructional design process described above ended with the implementation of the lesson with the students. From the beginning, teachers envisaged

this moment as the test of whether the proposed approach would be effective or would require further refining. However, what the teachers and the research team experienced was an iterative journey where the finish line was not the lesson in itself, but rather the reflection and revision of the plan that followed. As one teacher said:

If you come to my lesson, I may have prepared, we take a video. I may personally need your comments. We critique my lesson, maybe this will also give me a platform for future improvement. It may not necessarily stop at taking the record, but I would need your comments also. (FGD-E-MT01)

The Role of the Teachers as Co-Facilitators. The participation of the teachers in the coaching process as both participants and co-facilitators was crucial in the project, fostering the growth of a community of learners engaged in a process of transformative learning.

Synthesis of the Professional Development Methodology. Figure 1 below summarizes the steps of the professional development intervention that emerged from the collaboration between teachers, administrators, and researchers.

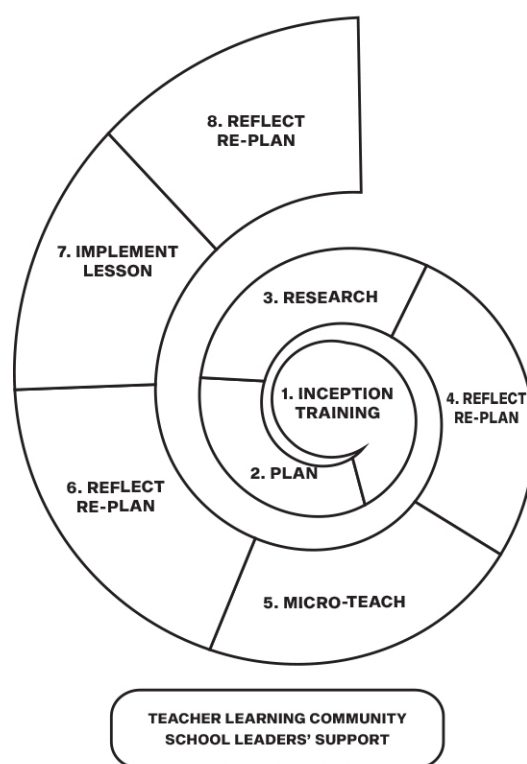


Figure 1: Outline of the Professional Development Process for Teachers' Implementation of the New Competency-based Curriculum

At inception (step 1), the process starts with a brief introduction to the competency-based curriculum, followed by a brief training (1 1/2 days) to introduce teachers to new approaches that foster deeper understanding of the content and critical thinking among learners. Teachers are then requested to design a simple lesson plan that, in their view, would enhance the learners' higher order cognitive skills. Next, participants are introduced to the critical thinking taxonomy and to the lesson plan template.

After the introductory training sessions, teachers in small subject-specific groups develop and discuss lesson plans that foster critical thinking (steps 2 and 3). Teachers are then invited to reflect on what they have learnt from the feedback received from the community of teachers and facilitators and from the suggestions given on their colleagues' lesson plans (step 4).

Once the lesson plan was considered to be ready by the teachers and the research team, teachers carry out microteaching (step 5). The practice lesson is then discussed and, if the expected outcome is not achieved, the lesson plan is revised and taught again (step 6).

After the process of lesson plan development and microteaching, the teacher implements the lesson in the class (step 7). Teachers are then requested to note down areas that need improvement for appropriate modification of the lesson plan (step 8).

Throughout the whole process, the role of the teachers in peer coaching and in facilitating the learning among their fellow faculty members, and the support of the school leaders are key elements in the process of teachers' transformation.

4.2 RQ2: Effectiveness of the Professional Development Model

This section addresses the second research question and describes the qualitative evidence for the effectiveness of the professional development model developed in the study in enhancing teacher ability to foster critical thinking in secondary students. The findings are presented according to three subthemes: 1) improvements related to instructional design; 2) perceived impact of the implemented lessons on student learning; 3) perceived impact of the professional development model on teachers' beliefs about the curriculum and the learning theories.

Improving Instructional Design. The critical thinking activation process helped the teachers to re-think how they planned for instruction. According to the participants, the coaching sessions helped them to be intentional in their lesson planning: "Going from that to being very particular and intentional and detailed in lesson planning. What I can say for now, we have been given the tools to do this" (FGD-E-EN02). Another teacher elaborated further on the reasons why lesson planning improved with the critical thinking approach, and on how this helped not only in being more prepared in front of the learners, but also in developing skills and values while deepening the content: "Being detailed... Adequate preparation, which I think has to do with research. But adequate preparation also has to be with being intentional... Go beyond content and using content as a tool, instead to develop skills and values." (FGD-E-EN01). The rest of this section articulates the lesson plan components especially impacted by participation in the project.

Improving the Setting of the Objectives. Before the intervention, teachers did not consider setting a clear aim for the lesson and clear objectives to be essential. By the end of the intervention, teachers emphasized the importance of learners' awareness of the lesson's objectives: "You [the student] must be knowing what my lesson is. I intend to teach this and my aim [for] the learners is this and you make it clear to them from the beginning of the lesson" (FGD-E-EN01).

Improving the Structure of the Activities. The support provided by the facilitators mainly regarded the development of activities for activating learner critical thinking within the specific subject. While the objectives of the lesson set the backbone of the whole lesson, it is crucial to "choose appropriate activities and methodology that can be able to help one achieve the lesson aim" (FGD-E-EN01).

Improving the Skills Development Component. It was quite difficult to help the teachers appreciate the difference between an activity that was engaging and an activity that, while capturing students' attention and having them participate, also developed critical thinking skills.

The taxonomy of critical thinking helped to facilitate this learning process: "It was hard for me to differentiate between the values, skills, knowledge, and so on and so forth. But with the introduction of the tool, that taxonomy that you provided, it made life quite easy for me" (FGD-E-HT02).

While elaborating on their own learning experience, the teachers also thought about how this process benefited their students: "I want to develop that skill [critical thinking] for these learners to have a clear judgement about the reasons they are presenting" (FGD-HT14).

Improving the Instructional Materials. The teachers engaged in research to find the most suitable materials for the activities they had planned. It was a challenging process, since many of them were not used to being so deliberate or elaborate in delivering lessons that would go beyond the transfer of factual knowledge, for which they had needed to simply display their personal notes on the blackboard: "We are able to choose better teaching materials and tools that are easy to understand and relate to the context of the learners we are handling and can keep them attentive" (M-EN-RN01).

Improving the Assessment Strategies. The formative assessment component was also a new element of discussion and consideration in designing the lesson plans. The activities carried out during the coaching process helped teachers improve their competencies for continually assessing students:

Then another great improvement for me is how to do in-class assessment, what are some of the criteria or methods I can use to evaluate and assess the progress within the lesson, the progress of learners within the lesson. (FGD-E-EN01)

Perceived Impact of Lesson Implementation on Student Learning. Twelve FGDs with 72 students followed the implementation of seven lessons. We organized their contributions into three main themes: the knowledge and skills the students believed they acquired (what) and the way they acquired them (how).

What Students Learnt. According to the students, the methodology used by the teachers helped them to acquire self-confidence (mentioned in 8 comments): “I’ve learnt to be audible enough and to have like, I believe in myself and I’ve learnt that discussing with my members is good” (FGD-S-HT02).

Moreover, being asked to collaborate with peers whom they did not know well taught them cooperation skills (8 comments):

It was maybe cooperation and friendship. For example, it can be when there is a part I don’t know, my neighbour does not know also, but now there is one person, maybe every day I don’t talk to him. We are just there as classmates, but we are not friends. So by force, I have to go to him and start befriending him so that he can help me. (FGD-S-MT02)

Discussing the tasks assigned by the teachers in groups or presenting the findings of the groupwork in front of the class contributed to the students’ self-confidence and communication skills, including speaking (5 comments), listening to the teacher’s and peers’ contributions (2 comments), and presenting (3 comments).

The students also realized that these lessons urged them to use their cognitive skills. Though only one person mentioned critical thinking, others spoke of reasoning skills (2 comments), mental skills (3 comments), or thinking skills (4 comments): “From the lesson I understood how to critically think” (FGD-S-HT02).

Moreover, the students were helped to acquire research skills (4 comments), which included information gathering (1 comment) and writing or reporting (6 comments).

How Students Learnt. The learners realized the importance of the various instructional strategies that were implemented during the lessons. They appreciated the teachers’ effort in guiding their groupwork activities (15 comments). Groupwork promoted the participation of every student, not only those who were more self-confident and already possessed good communications skills: “But if I was to be alone, I wouldn’t be able to do all those things ... But in groups, it made me able to be even comfortable with my friends” (FGD-S-EN01).

The students underscored the important benefits that these techniques fostered in terms of learning not only from the teacher but also from peers (15 comments).

Impacts on Teachers’ Beliefs. The discussions with the teachers showed how their past experience influenced their personal knowledge and pedagogical strategies in the classroom. The formal educational system the teachers had navigated through themselves had a strong effect on their pedagogical values and beliefs. This section describes how the teachers’ beliefs about curriculum and learning theories changed during the professional development program.

Teacher’s Beliefs about the Curriculum. At the start of the study, the participating teachers repeatedly manifested their awareness of and disappointment regarding their own lack of creativity. This was mostly attributed to the formal educational system they had experienced:

We still plan our lessons in that old way we were taught. We were given notes by our teachers; the same notes we somehow are using to give to our students. We are just giving them things; I can say we are just putting our own ideas among the students, not helping them to think deep in what they are trying to learn. (FGD-B-AD01)

The teachers realized that the new approach to instructional design empowered them in planning for skill enhancement in the students:

In a sense that, literally, to say that this kind of lesson really has tangible results. I can really see that I prepared this kind of lesson looking at this kind of skill, value and so on. I can easily see whether I have helped my student develop these skills and values and so on, which was not the case previously. (FGD-E-HT01)

Teachers' Beliefs about Learning Theories. Introducing the teachers to a new way of designing instruction that would encompass the development of higher order cognitive skills impacted their understanding of how learning is fostered in adolescents. Notably, there was a progressive shift from prescriptive pedagogical approaches to a more constructivist vision of learning (Clegg et al., 2008; Zecca, 2019).

At the start of the study, the teachers clearly represented the learners as incapable of building knowledge for themselves, and in constant need of support and reinforcement. The teachers were clearly the owners of the knowledge and the students needed to be spoon-fed. This approach to education reduced the meaning of education to inculcation of factual knowledge: “We’re just instilling, not bringing out”, as an administrator said (FGD-B-AD01).

At the end of the program, the teachers realized the shift that the project had fostered by calling for a different kind of pedagogical practice, which moves teachers’ support from “telling” students the content of what they should know to helping students in building their own knowledge (which implies a constructivist view of learning): “Looking at their level, I needed to tell them what to do. And to me, it was quite challenging that I would begin telling them what to do, instead of them thinking for themselves” (FGD-E-HT01).

5. Discussion

Research has underscored the effectiveness of teacher education approaches that focus not only on what works but also, and primarily, on why and how specific pedagogical practices are or are not effective (Bakkenes et al., 2010; Korthagen, 2017; Vermunt, 2014). The iterative nature of the process used in the study created a community of teachers who collaborated in reflecting on their own teaching practices and who openly and freely offered clear suggestions for improvement to their colleagues. The results of this participatory teacher professional development through lesson planning resulted in a high degree of teacher ownership of their work and their learning.

Though most of the time was dedicated to lesson designing, the focus was not on perfecting a plan, but on the impact the planned lesson had on the students. Thus, the teachers improved their ability to reflect on their teaching strategies in relation to their impact on learners’ competencies and learning outcomes, and to evaluate the introduction of specific activities or learning materials in light of their potential contribution to student learning. This is a key factor for fostering actual improvement in students’ outcomes and also for making the professional development process sustainable and self-correcting, by closely relating it to the monitoring and assessment of student learning (Fujii, 2014, 2016).

Alongside the importance of mastering pedagogical content knowledge (Kadir, 2017), the literature highlights the importance of explicitly clarifying the concept of critical thinking for teachers (Mpofu & Maphalala, 2017; Paul et al., 1989). The contextualized taxonomy of critical thinking helped the teachers to clearly identify different cognitive skills, the interactions between skills, dispositions and values, and the relation between specific activities and the skills learners were supposed to develop.

One of the main challenges in teaching critical thinking to students is the need for teachers to become critical thinkers themselves (Walsh & Paul, 1986). The professional development project enhanced the critical thinking abilities of the teachers, with a promising cascade effect on students (Applegate & Applegate, 2004; Elder, 2012; Elder & Paul, 1994). Alongside the reform of the competency-based curriculum, even the teacher education curriculum should be updated (Ministry of Education and Sports, 2020).

Teachers’ shift from mere attention to achieving the curriculum objectives to concern for the students’ learning and cognitive skills was a major result of this study. End-of-cycle examinations came to have undue influence on the teaching and learning experiences at the classroom level (Cheng & Curtis, 2004; Mitana et al., 2018). Moreover, teachers tended to conceive of their notes taken at the university as their only source of knowledge; the reduction of education to mere handing over of facts and rules fostered an

idea of students as empty vessels that teachers, as owner of knowledge, have to fill up (Freire, 1970). The intervention changed teachers' perspective on what should be taught in class and how, shifting their role to facilitators of students' learning, able to create powerful experiences, and to verify and modify them based on learners' feedback and results.

The coaching process contributed to the development of practical pedagogical expertise within a reflective framework, which resulted in the planning and delivery of lessons that were carefully and purposefully designed to facilitate students' critical thinking. Teachers' greatest challenge was to distinguish between instructional activities that are participatory and engage the learners and activities that both engage the learners and enhance their cognitive capacities (see also: Giacomazzi et al., 2023). This also led to a progressive shift from prescriptive behaviouristic pedagogical approaches to constructivist approaches (Clegg et al., 2008; Zecca, 2019). The change increased students' participation and their perceived acquisition of skills and knowledge (Skinner & Belmont, 1993).

Learners' engagement at the classroom level is also considered beneficial for the development of higher order thinking skills, such as problem solving (Murray & Lang, 1997) or critical thinking (Garside, 1996), and contributes to building the person's character (Kuh & Umbach, 2004). In the FGDs, students noted that their reasoning skills had improved. In the Ugandan context, where rote learning is common at all levels of education, participatory approaches can be considered to be a new experience for many of the teachers and the vast majority of students (Altinyelken, 2010; O'Sullivan, 2002).

6. Conclusions

This study confirmed the truth of the assumption (Applegate & Applegate, 2004) that, in order for teachers to foster critical thinking in the students, they first need to become critical thinkers themselves. Then, through a metacognitive process, they need to become aware of how these competencies were developed in their own personal experience and, concurrently, how they can be gradually, but systematically and purposefully, fostered in learners.

The co-constructed nature of the professional development model presented in this study makes its replication in other schools and similar contexts very promising, because its design offers the opportunity to localize the intervention by respecting the participants' background and the context. The on-going dialogue among stakeholders provided an opportunity to overcome challenges, concerns, and obstacles, and even to overcome the teachers' natural resistance to change (Duffy & Roebler, 1986; Labaree, 2000). Moreover, the growth of a community of learners among the teachers was one of the most useful outcomes of the process.

The instructional support coaching system, alongside the use of the developed tools, proved to be beneficial for enhancing the teachers' professional and pedagogical capacity, led them to transform their instructional planning process, and shifted their beliefs about curricula and learning theories (Mezirow, 1990, 1991, 1998, 2003).

We believe that the insights from the study can significantly contribute to educational reforms in Uganda. The newly reformed lower secondary competence-based curriculum (NCDC, 2019) presented the stakeholders with a great opportunity, despite the apparent lack of familiarity with critical thinking skills amongst students, teachers, and school leaders.

At the system level, government agencies and institutions of higher learning could assist in the process of cultural change by supporting innovative pedagogy and critical thinking enhancement as a key component of educational quality in schools. Providing regular continuing professional development training, as foreseen in the new Uganda National Teacher Policy 2019 (Ministry of Education and Sports, 2019), would be a minimum first step. Reform of the in-service training should also be accompanied by reform of the teacher education curricula. In addition, future research documenting effective educational practices that nurture student critical thinking skills might offer important insights that could result in a lasting change of Africa's educational systems.

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Conflict of interests

The authors declare no conflict of interest.

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Educational contexts and support for emotional aspects in the workplace: a qualitative investigation of the role of social-emotional skills in professional practice

Contesti educativi e supporto agli aspetti emotivi nel lavoro: un'indagine qualitativa sul ruolo delle competenze socio-emotive nella pratica professionale

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Abstract

The paper addresses the issue of social-emotional skills in educational work and shows the results of a qualitative survey involving more than 60 educational professionals. The study intends to determine the training needs and the possibility of transformation of emotional aspects into professional competence; finally, we dwell on the role of strategic tools deployed by work contexts to support and sustain educational professionals. We conducted a reflexive thematic analysis (Braun & Clark, 2006) on the transcripts, which led to the identification of ten themes with related codes; the themes concern both aspects related to the personal and social domains of social-emotional competence and the fundamental role of the organization in supporting the emotional aspects of the working people through specific strategies, such as pedagogical supervision.

Keywords: Social-emotional Skills; Educational Professions; Work Context; Emotional Intelligence; Organizational Support.

Riassunto

Il contributo affronta il tema delle competenze socio-emotive nel lavoro educativo e mostra i risultati di un'indagine qualitativa che ha visto coinvolti più di 60 professionisti dell'educazione. L'intento dello studio è cogliere i bisogni formativi, la possibilità di trasformazione degli aspetti emotivi in competenza professionale e, infine, il ruolo degli strumenti strategici messi in campo dai contesti di lavoro per supportare e sostenere i professionisti dell'educazione. Sulle trascrizioni è stata condotta un'analisi tematica riflessiva (Braun & Clark, 2006) la quale ha portato all'identificazione di dieci temi con relativi codici; i temi riguardano sia aspetti del dominio personale e sociale legato alle competenze socio-emotive sia il ruolo fondamentale dell'organizzazione per il supporto agli aspetti emotivi dei lavoratori tramite specifiche strategie, come ad esempio la supervisione pedagogica.

Parole chiave: Competenze Socio-Emotive; Professioni Educative; Contesto Di Lavoro, Intelligenza Emotiva; Supporto Organizzativo.

1. Introduzione

Il contributo fotografa parte di quella nota complessità che accompagna il lavoro dell'educatore e del pedagogo, in particolare soffermandosi sul ruolo degli aspetti socio-emotivi nella pratica professionale. L'intento è non solo cogliere in quali aspetti i professionisti sono maggiormente stimolati emotivamente ma anche individuare i bisogni formativi, la trasformazione degli aspetti emotivi in competenza professionale e, infine, il ruolo degli strumenti strategici messi in campo dai contesti di lavoro per supportare e sostenere i professionisti dell'educazione.

Nel frastagliato e multidimensionale quadro che racchiude le competenze che deve possedere chi lavora nei contesti educativi, rientrano «il sapere dei sentimenti, l'intelligenza emotiva, la comprensione empatica, l'autocomprensione affettiva, le competenze trasversali [...]» (Montanari & Costantini, 2021, p. 87).

Oltre al difficile iter che accompagna il riconoscimento economico, giuridico e sociale di queste professioni – che ha registrato una prima vittoria nell'approvazione della Legge Iori (Ddl. 22 giugno 2016, n.2243) e, in ultimo, nella recentissima proposta di legge approvata alla Camera nel luglio dell'anno corrente, che istituisce un albo e un ordine professionale per pedagogisti ed educatori professionali socio-pedagogici – si affianca la complessità connaturata al lavoro stesso (Corbucci, Salerni & Stanzione, 2021). Quest'ultima si traduce nella molteplicità di contesti nei quali operano i professionisti e nelle condizioni di fragilità dei destinatari a cui si affiancano; inoltre, l'organizzazione dei contesti di lavoro è spesso complessa, con la compresenza di molteplici ruoli, competenze interdisciplinari e interprofessionali e sistemi di funzionamento e turnazione non lineari.

In questo mosaico di competenze e complessità, un forte fattore di protezione è quella che viene definita Intelligenza emotiva e poi successivamente Competenza socio-emotiva cioè la capacità di riconoscere e gestire le proprie e altrui emozioni per mettere in campo comportamenti e instaurare relazioni che siano efficaci.

Dalla fine degli anni '90 gli studi su questi aspetti sono numerosi e non rivestono certo una novità scientifica. Tuttavia, le ricerche che considerano il ruolo dell'intelligenza emotiva nel lavoro educativo sono insufficienti a fronte di quelle messe in campo in altri contesti, soprattutto al fine di sostenere e costruire contesti lavorativi fondati sulla centralità della persona umana e sulla formazione e protezione degli aspetti emotivi nel lavoro.

2. Intelligenza emotiva e il ruolo delle competenze socio-emotive nel lavoro educativo

Il legame tra pensiero ed emozioni che ha attraversato il dibattito filosofico già dei greci, che dapprima veniva letto in modo indissolubile per poi palesarne una definitiva scissione con il pensiero platonico, si ripercuote nelle discussioni moderne e contemporanee sia da un punto di vista empirico che culturale. Subiamo infatti, anche da una prospettiva psicologica e sociale, le conseguenze dell'antico separatismo cartesiano tra corpo e mente che ci inducono a ripensare il rapporto emozioni e cognizioni, rivendicando, come sosteneva Bateson (1972), sia una dimensione cognitiva delle emozioni sia il superamento della separazione tra ragione e sentimento. Una funzionale ricostruzione del rapporto tra emozioni e pedagogia si ritrova in un contributo di Cagol (2019) in cui vengono inquadrati gli studi italiani degli ultimi trent'anni sull'educazione emotiva tra pensiero filosofico ed evidenze neuroscientifiche.

Le implicazioni di questa separazione tra corpo e mente hanno attraversato diversi campi del sapere, comprese le neuroscienze che sono tornate a sancire l'indissolubilità del sistema mente-corpo e il ruolo fondamentale che la capacità di esprimere e sentire le emozioni hanno sul comportamento razionale (Damasio, 1994).

Nel dibattito scientifico, all'interno degli studi psicologici, i primi autori a introdursi con il termine di Intelligenza emotiva sono stati Salovey e Mayer, i quali, nel 1990, l'hanno definita «un sottoinsieme dell'intelligenza sociale ed è la capacità di monitorare le emozioni proprie e altrui, discriminarle tra loro e utilizzare queste informazioni per guidare il pensiero e le azioni» (1990, p. 189).

Il modello originario, che gli autori hanno poi allargato alla fine degli anni '90, include tre abilità principali: valutare ed esprimere le emozioni proprie e altrui (prestando attenzione ai segnali emotivi non verbali, alle espressioni facciali, al tono di voce e ad altri comportamenti non verbali); regolare le proprie

emozioni e quelle degli altri (controllare, gestire e regolare le proprie emozioni e quelle degli altri attraverso la messa in atto di alcuni comportamenti che guidano l'impressione che gli altri hanno su di noi); usare le emozioni in modo adattivo ed efficace.

La terza componente è la più innovativa perché riguarda l'uso che si fa delle emozioni, le quali non sono più un impedimento per l'individuo ma diventano risorse in grado di indirizzarne il pensiero (D'Amico, 2018).

Il modello di Salovey e Mayer viene detto modello *puro* in quanto l'intelligenza emotiva è letta come un insieme di abilità cognitive. A questo modello si affiancano quelli chiamati *misti* o di *tratto* che considerano invece un insieme di tendenze comportamentali, variabili motivazionali e affettive relativamente stabili nel tempo (D'Amico, 2018). Tra questi modelli hanno avuto particolare rilevanza quelli di Goleman (1995) e Bar-On (1997).

Il primo individua quattro domini principali (all'interno dei quali sono contenute diverse sottodimensioni): consapevolezza di sé, gestione di sé, consapevolezza nelle relazioni sociali, gestione delle relazioni sociali. Il secondo definisce invece l'intelligenza emotiva sociale (ESI) come:

una sezione trasversale di competenze, abilità e facilitatori emotivi e sociali correlati che determinano quanto efficacemente comprendiamo ed esprimiamo noi stessi, comprendiamo gli altri e ci relazioniamo con loro e affrontiamo le esigenze quotidiane (Bar-On, 2006, p. 14).

I modelli misti risultano di particolare rilevanza se applicati ai contesti educativi, i quali, strutturandosi e caratterizzandosi con e per le complessità sopradescritte, necessitano di una lettura integrata delle competenze professionali che consideri necessariamente il dominio sociale.

Non a caso, il modello misto di Goleman ha trovato un'ampia applicazione nei contesti lavorativi attraverso i quali l'autore giunge al concetto di competenza emotiva, cioè, «una capacità appresa, basata sull'intelligenza emotiva, che risulta in una prestazione professionale eccellente» (Goleman, 1998, p. 40).

Quindi se il possesso dell'intelligenza emotiva determina la capacità di apprendere le dimensioni sopradescritte, la competenza emotiva, invece, traduce quella potenzialità in capacità spendibili nella vita come nel lavoro. La strutturazione del pensiero di Goleman è quindi in linea con la nota definizione di competenza data dalla Commissione europea cioè «la comprovata capacità di usare conoscenze, abilità e capacità personali, sociali e/o metodologiche, in situazioni di lavoro o di studio e nello sviluppo professionale e personale» (Raccomandazione del Parlamento Europeo e del Consiglio del 23 aprile 2008).

Le competenze individuate da Goleman vengono suddivise in personali e sociali. Le prime determinano il modo in cui conosciamo e gestiamo noi stessi (consapevolezza e padronanza di sé, motivazione); quelle sociali riguardano il modo in cui conosciamo e gestiamo le relazioni con gli altri (empatia e abilità sociali). Ogni dimensione possiede al suo interno delle competenze emotive specifiche. Questa suddivisione ritorna anche nell'analisi qualitativa delle interviste condotte all'interno di questo studio, le quali evidenziano come ci sia una netta distinzione tra competenze orientate alla gestione del sé e competenze orientate alle abilità sociali, e come il contesto di lavoro incida sulle une e sulle altre in modi differenti.

Nei contesti di lavoro educativo infatti «la riabilitazione dell'intelligenza emotiva riguarda la formazione su tutti i versanti: dalle competenze dei formatori all'organizzazione dei servizi, dai destinatari dei progetti ai contenuti, alle modalità» (Iori, 2010, p. 45). Per questo è necessario, e l'intento di questo contributo vuole rafforzare tale affermazione, che ci sia una formazione circa le competenze emotive nei contesti di lavoro per sopperire a quello che è stato definito analfabetismo sentimentale (Iori, 2010).

Le competenze socio-emotive, in entrambi i domini, personale e sociale, possono e devono essere supportate ed implementate nel contesto di lavoro, tanto più nei contesti di lavoro educativo dove i lavoratori sono continuamente esposti a emozioni e sentimenti dati non solo dalla relazione con l'utenza, come spesso si sottolinea, ma anche dalle caratteristiche della strutturazione del lavoro terminando spesso, per autotutela della propria salute mentale, in un distacco emotivo che riveste una delle tre dimensioni della sindrome del burn-out (Maslach et al., 2001).

Gli studi di psicologia del lavoro e delle organizzazioni tornano, in un'ottica interdisciplinare, a suggerire l'apertura della visione pedagogica ad aspetti che non siano solo di carattere "puramente" relazionale. Riprendendo ad esempio il modello di Ashkanasy (in Alessandri & Borgogni, 2018) si ritrovano cinque livelli di analisi per lo studio delle emozioni all'interno dei contesti organizzativi di lavoro: livello delle

differenze intra-individuali; livello delle differenze inter-individuali; livello delle relazioni interpersonali; livello del gruppo; livello dell'organizzazione.

Solo il primo livello si concentra sulle variazioni delle emozioni all'interno dell'individuo, andando via via ampliandosi all'esterno fino ad arrivare al livello organizzativo che implica il concetto di clima emotivo e di cultura organizzativa.

Studi recenti in contesti di lavoro affini a quello educativo, come quelli del servizio sociale (O'Connor, 2020), sottolineano come la creazione di spazi e tempi per esprimere ed elaborare le emozioni all'interno dell'organizzazione, consenta quel processo di riflessività così ricercato in campo pedagogico (Schön, 1993); la costruzione di significati complessi dei processi interiori arrivano a gestire e trasformare le emozioni che da ostacoli diventano risorse, proteggendo i professionisti da situazioni di rischio nella pratica lavorativa.

Diventa quindi indispensabile che le équipes siano fortemente orientate alla tutela della dimensione emozionale e alla condivisione delle cornici teoriche di riferimento che orientano la pratica. Infatti, le emozioni rivestono un enorme fattore di protezione dai rischi di stress lavoro-correlato. Come noto, sebbene i sintomi e le conseguenze dello stress siano riconducibili in parte alle differenze individuali, l'ambiente di lavoro ha delle forti influenze nell'alimentare i fattori di rischio (Alessandri & Borgogni, 2018).

Gli interventi, in questo senso, che agiscono sul disagio dei lavoratori per migliorare le competenze socio-emotive sono quelli secondari, indirizzati alla comprensione e gestione delle emozioni.

Gli studi specifici sui professionisti dell'educazione che affrontano approfonditamente questo aspetto sono pochi e alcuni autori iniziano a sottolinearlo (Converso et al., 2015; Zannini & Daniele, 2020). L'attenzione in campo educativo si concentra spesso nei confronti della figura dell'insegnante mentre in campo sociale ci si focalizza su professioni socio-sanitarie come psicologi, medici, psichiatri etc.

Tuttavia, gli studi che se ne sono occupati hanno messo in luce che le disposizioni individuali e le innate competenze emotive degli studenti che si iscrivono ai corsi di pedagogici professionalizzanti si dimostrano insufficienti per affrontare le sfide della pratica professionale. Per questo risulta fondamentale sia una formazione specifica dedicata alle competenze socio-emotive durante i percorsi di formazione formale (Stanzione, 2022; Stanzione & Szpunar, 2022; Fernández-Molina, et al., 2019) sia nella formazione continua degli educatori (Zannini & Daniele, 2020).

3. La ricerca

3.1 Storia della ricerca

Lo studio sul ruolo delle competenze socio-emotive nel lavoro educativo nasce nell'anno accademico 2021-2022 all'interno dell'esercitazione di ricerca¹, da me coordinata, dal titolo «Progettazione e valutazione dei servizi educativi» del corso triennale di Scienze dell'Educazione e della Formazione del Dipartimento di Psicologia dei processi di sviluppo e di socializzazione di Sapienza Università di Roma. La ricerca, portata avanti fino all'a.a. 2022/2023, ha in una prima fase indagato i bisogni formativi delle studentesse e degli studenti dei corsi di laurea pedagogici (triennale e magistrale) in relazione alla formazione delle competenze socio-emotive legate alla professione educativa. Gli esiti della ricerca (Stanzione, 2022; Stanzione & Szpunar, 2022) hanno mostrato come la percezione delle competenze socio-emotive degli studenti non cresce all'aumentare degli anni di studio, mentre il tirocinio ha mostrato avere una relazione positiva con l'implementazione di tali competenze. I risultati hanno quindi confermato l'ipotesi, cioè che queste competenze

1 Le esercitazioni di ricerca sono attività dedicate agli studenti del primo anno, previste nel piano formativo del corso di Laurea in L-19; si caratterizzano per il coinvolgimento delle matricole in piccoli gruppi di ricerca, dove sono chiamati a vivere tutte le fasi del processo: definizioni delle domande e delle ipotesi, realizzazione del progetto, stesura del rapporto finale. Il modello di riferimento delle esercitazioni di ricerca, introdotto nei corsi pedagogici Sapienza da Maria Corda Costa e Aldo Visalberghi (1975), è il peer mentoring (Sposetti & Szpunar, 2019). Le esercitazioni sono prima di tutto un luogo con finalità di accoglienza e orientamento per le matricole che entrano a far della comunità accademica: gli studenti iniziano così a tessere una rete sociale che li sostiene, anche grazie alla mediazione di uno o più studenti di riferimento (studenti al terzo anno della laurea triennale, studenti magistrali o dottorandi).

debbano essere sviluppate attraverso l'implementazione di spazi di formazione dedicati anche all'interno di percorsi formali come quello universitario (Dolev & Leshem, 2016; Kuk et al., 2021).

Una volta sottolineata la necessità degli studenti di avere spazi e tempi specifici di formazione e riflessione sugli aspetti emotivi legati al lavoro, è nato il laboratorio "La supervisione pedagogica al tirocinio come strumento per potenziare l'intelligenza socio-emotiva"² il quale si propone come obiettivo generale quello di fornire agli studenti uno spazio di azione sulle competenze socio-emotive, in particolare sul dominio personale per garantire così ricadute efficaci nel dominio sociale. Il laboratorio adotta tecniche di tipo counselling riadattate alle esigenze del contesto universitario e agli scopi formativi degli studenti. La partecipazione al percorso consente di lavorare sulla consapevolezza dei propri vissuti emotivi, di saperli gestire in situazione e di individuare le proprie risorse personali necessarie per affrontare le minacce interne ed esterne del contesto di lavoro nel quale si è inseriti.

Quello che viene presentato in questo contributo, è il terzo passaggio della ricerca condotta su questi temi. Il focus in questa fase si è spostato sui contesti di lavoro educativo per capire come formano e sostengono i professionisti e che ruolo giocano le competenze socio-emotive nella pratica professionale.

3.2 Bisogno e domande di ricerca

Obiettivo generale della ricerca è quello di indagare, attraverso un metodo misto (quali-quantitativo), il ruolo delle competenze socio-emotive nel lavoro educativo e come il contesto supporta e sostiene i professionisti dell'educazione nei loro aspetti emotivi. Lo studio si è quindi distinto in due fasi: una di tipo qualitativo, oggetto di questo contributo, che ha visto coinvolti 62 educatrici/educatori tramite interviste semi-strutturate e una di tipo quantitativo, che ha previsto la disseminazione di un questionario strutturato³ volto ad indagare in che modo l'intelligenza emotiva è in relazione ai fattori di rischio/stress lavoro-correlato e alla percezione del contesto di lavoro.

Il bisogno di ricerca nasce dalla considerazione, avvenuta dopo una rassegna approfondita della letteratura, che il ruolo dell'intelligenza emotiva e delle competenze socio-emotive nei contesti di lavoro è stato indagato principalmente in relazione a contesti scolastici, incentrandosi sulla professionalità dell'insegnante e su variabili legate al successo formativo degli studenti.

Sono più rare invece indagini che si concentrino specificatamente su contesti e professionalità educative che, come noto, si costruiscono attraverso processi di rielaborazione del proprio vissuto emotivo e della propria esperienza, al fine di gestire al meglio la complessità del lavoro (Oggoni, 2013).

Alla luce dei bisogni individuati, nello studio qualitativo che viene qui presentato, si intende rispondere alle seguenti domande di ricerca:

1. Qual è il livello di sensibilità e consapevolezza che gli educatori hanno rispetto al ruolo delle competenze socio-emotive nel lavoro?
2. Come e con quali strumenti i contesti di lavoro educativi supportano i lavoratori negli aspetti emotivi?

3.3 La costruzione dello strumento dell'intervista

L'intervista semi-strutturata è stata costruita in modo collaborativo dagli studenti partecipanti all'esercitazione di ricerca. L'intervista si compone di 10 domande e il processo di sviluppo delle stesse è avvenuto intorno a tre aree tematiche:

- 2 Il laboratorio è stato progettato e condotto dall'autrice e da Nicoletta Di Genova, assegnista di ricerca presso l'Università degli studi dell'Aquila, entrambe counsellor professioniste.
- 3 I risultati dello studio quantitativo non vengono presi in considerazione in questo contributo e verranno presentati in pubblicazioni future che saranno in grado di mettere in relazione i risultati di entrambe le metodologie adottate.

- *esperienza del contesto di lavoro*, che con le prime due domande introduttive, indaga aspetti del lavoro e dell'organizzazione del partecipante: in cosa consiste il suo lavoro, da quanto tempo lavora e che formazione ha, quali mansioni, quali ruoli ricopre e a quale tipo di utenza si rivolge la sua struttura.
- *aspetti emotivi del lavoro*, che con 5 domande indaga gli aspetti del lavoro che coinvolgono emotivamente l'intervistato, utilizzando come riferimento le cinque aree dell'intelligenza emotiva (riconoscimento delle emozioni, gestione delle emozioni, motivazione del sé, empatia e aspetti sociali del lavoro, come ad esempio il lavoro di équipe). L'area intende quindi approfondire le emozioni prevalenti nel lavoro, la facilità a riconoscerle e la consapevolezza del lavoratore rispetto alle aree della loro influenza nel lavoro educativo.
- *supporto alla gestione degli aspetti emotivi da parte del contesto di lavoro*, indaga con 3 domande gli strumenti, le strategie o gli spazi messi a disposizione dall'organizzazione al fine di supportare i lavoratori nella gestione degli aspetti emotivi.

Le interviste sono state condotte dagli studenti del corso debitamente formati al compito dopo lezioni teoriche e simulazioni. Le interviste si sono svolte sia online su piattaforma Google Meet che in presenza. Prima della somministrazione dello strumento vengono esposti agli intervistati la lettera di presentazione della ricerca, con gli scopi dello studio e la struttura dello strumento, nelle sue aree tematiche e il consenso informato al trattamento dei dati.

3.4 Il campione

I partecipanti alla ricerca sono 62 tra educatrici ed educatori appartenenti a diversi contesti educativi. Nello specifico 30 lavorano in asilo nido, 15 in casa-famiglia, 5 in contesti scolastici (Polo 0-6, AEC), 3 in ludoteca, 1 in centro antiviolenza, 3 in cooperative sociali con diversi ruoli di coordinamento. I partecipanti sono stati reclutati sulla base della loro disponibilità, dunque il campione è di convenienza. I partecipanti sono stati contattati dalla docente e dagli studenti tramite una formale lettera di presentazione della ricerca e dei suoi scopi.

3.5 L'analisi dei dati

Le interviste sono state integralmente sbobinate tramite una trascrizione *verbatim* omettendo quindi parole di riempimento e balbettii, correggendo piccoli errori di grammatica e uso di espressioni dialettali (Pagani, 2020). Sulle trascrizioni è stata condotta un'analisi tematica riflessiva triangolata con un approccio bottom-up (Braun & Clarke, 2006; Pagani, 2020) che ha fatto emergere categorie e sottocategorie, ad ognuna delle quali è stata attribuita una definizione, seguita da evidenze. L'analisi è stata computer assistita tramite il Software MaxQda.

Per la triangolazione, gli studenti sono stati suddivisi in due sotto-gruppi. Al loro interno, ogni studente ha primariamente condotto una lettura integrale e individuale dei testi. In una seconda fase, ogni sotto-gruppo ha creato un suo modello categoriale composto da codici e relativi temi. In una terza ed ultima fase, i modelli categoriali dei due sotto-gruppi sono stati confrontati per giungere a un unico modello categoriale condiviso.

Questa fase di analisi ha avuto una doppia valenza formativa in quanto, se da una parte gli studenti si sono potuti sperimentare con metodi qualitativi di indagine e analisi dei dati, dall'altra il ragionamento e la discussione condivisi intorno ai temi e ai codici emersi, ha permesso l'attivazione di quel necessario processo riflessivo da condurre intorno alla professione educativa, per poter interiorizzare processi e approcciare in modo metacognitivo alla pratica. La scelta di coinvolgere gli studenti rispecchia in parte i principi della prospettiva «Student Voice» (SV) (Grion & Dettori, 2014) che basa il suo presupposto sul fatto che gli studenti siano soggetti attivi e competenti, in grado di fornire contributi significativi alla riflessione e al miglioramento dei processi di insegnamento-apprendimento. In questo caso, il coinvolgimento degli studenti in un processo di ricerca - che ha richiesto un contatto diretto con i professionisti dell'educazione - ha permesso loro di conoscere il campo nel quale saranno chiamati ad operare e di identificare, in una

forma meta-cognitiva e meta-riflessiva i loro bisogni e le loro aspettative. Questi ultimi, possono essere inoltre utilizzati per migliorare le strategie didattiche e i contenuti dei corsi. In aggiunta, il coinvolgimento degli studenti nella ricerca ha permesso loro di sentirsi più partecipi e responsabili del proprio percorso formativo, sviluppando competenze trasversali quali la comunicazione, il problem solving e il lavoro di gruppo. La scelta di coinvolgere gli studenti è stata motivata, dunque, da diversi fattori, tra cui: la volontà, nella già citata prospettiva SV, di dare voce alle esperienze e alle opinioni degli studenti; la convinzione che gli studenti possano essere attori attivi del processo di ricerca, sviluppando una ricerca più partecipata e inclusiva; l'obiettivo di promuovere già dal primo anno la cultura della ricerca tra gli studenti.

Tuttavia, il coinvolgimento degli studenti, dal punto di vista metodologico, non è di banale applicazione; è importante, infatti, garantire la validità dei risultati emergenti dall'analisi dei dati raccolti. Questo perché gli studenti, pur essendo soggetti attivi e competenti, hanno esperienze e professionalità differenti rispetto a quelle del ricercatore e, di conseguenza, potrebbero «falsare» in qualche modo i risultati. Per arginare questo pericolo, è necessario prevedere una validazione continua a livello metodologico. Questa validazione è stata effettuata attraverso due diverse strategie: la supervisione continua da parte del docente-ricercatore esperto che ha fornito feedback e suggerimenti agli studenti durante l'intero processo di ricerca, aiutandoli a evitare errori e bias; l'utilizzo della triangolazione nell'analisi dei dati grazie alla quale gli stessi testi sono stati analizzati da soggetti diversi permettendo di individuare eventuali incongruenze e di migliorare la validità dei risultati.

3.6 I temi e le categorie emerse

L'analisi tematica riflessiva ha condotto a un modello categoriale, illustrato nella Tabella 1, composto da 10 temi. Di seguito vengono descritti i criteri di inclusione per ogni tema e dunque la descrizione generale dei codici che li compongono:

- *la centralità delle emozioni nel lavoro educativo* i cui codici raccontano come per gli intervistati le emozioni rivestano un posto fondamentale con funzioni di orientamento e guida all'agire educativo;
- *le emozioni prevalenti piacevoli* i cui codici raccolgono le emozioni prevalenti che gli educatori percepiscono come piacevoli legandole alle diverse situazioni del lavoro;
- *le emozioni prevalenti spiacevoli e difficoltà nel lavoro* che raccoglie la varietà di emozioni spiacevoli che provano gli educatori e il legame con i diversi aspetti del lavoro;
- *le difficoltà nel lavoro*, nel quale sono stati fatti rientrare i codici che trattano specificatamente gli ambiti prevalenti nei quali la pratica lavorativa incontra delle difficoltà;
- *le strategie individuali per supportarsi emotivamente*, nel quale rientrano i codici che raccontano le strategie messe in atto dai singoli per prendersi cura della propria vita emotiva;
- *rapporto con l'utenza e coinvolgimento emotivo*, che riguarda il legame tra emozioni e utenza e raccoglie i codici che descrivono il ruolo del vissuto emotivo nella gestione della relazione con l'utenza;
- *il ruolo dell'organizzazione nella vita emotiva dei lavoratori*, che descrive attraverso i codici come, perché e con quali azioni l'organizzazione può occuparsi della vita emotiva dei lavoratori;
- *i bisogni percepiti dei lavoratori per la cura emotiva*, raccoglie i bisogni emotivi degli intervistati rispetto al potenziale supporto che si vorrebbe ricevere dall'organizzazione;
- *le competenze socio-emotive che fanno parte del profilo professionale*, che descrive tutte le competenze socio-emotive necessarie al fine di un agire professionale efficace;
- *il ruolo dell'equipe nel lavoro educativo*, che descrive come il rapporto con i colleghi ha delle ricadute sulla professionalità.

TEMI	CODICI
Centralità delle emozioni del lavoro educativo	<ul style="list-style-type: none"> – il continuo alternarsi di emozioni piacevoli e spiacevoli – il piacere del lavoro prevale sulle difficoltà emotive – le emozioni come feedback per migliorare l'agire educativo – l'intensità delle emozioni facilita il loro riconoscimento – il coinvolgimento emotivo con l'utenza è una risorsa – le emozioni come mezzo dell'agire educativo
Emozioni prevalenti piacevoli	<ul style="list-style-type: none"> – la gioia come fonte di motivazione nel lavoro – la soddisfazione che deriva dal successo lavorativo – la passione limita l'influenza sul lavoro delle emozioni derivate alla vita privata – la relazione con l'utenza stimola emozioni piacevoli – Senso di restituzione educatore-utente (soddisfazione, orgoglio, gioia)
Emozioni prevalenti spiacevoli	<ul style="list-style-type: none"> – l'affaticamento dovuto al coinvolgimento emotivo – la frustrazione derivata da non raggiungimento di un obiettivo – la rabbia per i tempi istituzionali – l'ansia nel rispondere ai bisogni dell'utenza – il carico emotivo come debolezza nel lavoro
Difficoltà nel lavoro	<ul style="list-style-type: none"> – la difficoltà di scindere vita professionale e privata – la difficoltà nel comprendere diversi punti di vista nell'equipe
Strategie individuali per supportarsi emotivamente	<ul style="list-style-type: none"> – le attività extra-lavorative per il supporto emotivo (sport/hobby) – il confronto con persone (amici/familiari) – il riflettere e analizzare le proprie emozioni – il mantenere un pensiero positivo – il dotarsi di supporti psicologici (counseling/psicoterapia)
Rapporto con l'utenza e coinvolgimento emotivo	<ul style="list-style-type: none"> – le emozioni dell'educatore si riflettono sull'utenza – l'agire educativo cambia in base alle emozioni provate – il vissuto personale dell'educatore influenza l'agire educativo – il vissuto e la storia personale dell'utente condiziona lo stato emotivo degli operatori – il rapporto con i genitori influenza il lavoro
Ruolo dell'organizzazione nella vita emotiva dei lavoratori	<ul style="list-style-type: none"> – gestire la vita emotiva del personale riduce l'abbandono – prestare un'attenzione strutturata alla vita emotiva – prevedere una supervisione pedagogica – la gestione dei tempi del lavoro (turni e pause) – la formazione continua su temi legati alle emozioni
I bisogni percepiti dei lavoratori per la cura emotiva	<ul style="list-style-type: none"> – aumentare e prevedere spazi per la cura emotiva – potenziare la formazione (corsi specifici) su temi legati alle emozioni – predisporre una figura professionale per il sostegno emotivo – predisporre una supervisione al lavoro educativo
Le competenze socio-emotive che fanno parte del profilo professionale	<ul style="list-style-type: none"> – l'empatia e l'ascolto attivo – il mantenere un distacco emotivo con l'utenza – lo scindere vita privata e lavorativa – il sapersi confrontare con l'equipe – il saper riconoscere le proprie emozioni – la gestione delle emozioni è una competenza da apprendere – l'esperienza aiuta di per sé la gestione emotiva – il riconoscere e ascoltare i propri bisogni (capacità di riconoscere il bisogno di una pausa)
Il ruolo dell'equipe nel lavoro educativo	<ul style="list-style-type: none"> – il confronto con i colleghi aiuta la gestione emotiva – una buona relazione con i colleghi rende il lavoro più efficace – il supporto dei colleghi è una risorsa per affrontare il lavoro

Tabella 1: modello categoriale con temi e codici

È interessante notare come i temi ricoprono sia aspetti del dominio personale e sociale, come, ad esempio, *Le strategie individuali per supportarsi emotivamente*, sia aspetti legati alla strutturazione del lavoro, come *Il ruolo dell'organizzazione nella vita emotiva dei lavoratori* o *Il ruolo dell'equipe*. Questo rafforza quanto emerge dalla letteratura: benché le competenze emotive riguardino la capacità dell'individuo di applicare le proprie abilità nelle situazioni, il ruolo dell'organizzazione lavorativa, intesa in sistemi strategici di supporto, è fondamentale per formare e sostenere tali competenze.

Su ogni codice è stato possibile effettuare un calcolo delle frequenze delle occorrenze; per motivi di sintesi, di seguito verranno approfonditi solo due dei temi emersi: le competenze emotive che fanno parte del profilo professionale e il ruolo dell'organizzazione nella vita emotiva dei lavoratori. Questi temi, infatti, interrelati tra loro, rispondono alla chiarificazione del ruolo strategico del contesto lavorativo affinché gli aspetti di competenza professionale, relativamente agli aspetti emotivi, possano essere implementati.

3.6.1 Le competenze emotive che fanno parte del profilo professionale

Come detto, all'interno di questo tema rientrano tutte le declinazioni delle competenze socio-emotive che gli intervistati riconoscono necessarie nella pratica professionale. Nel Grafico 1 viene mostrata la distribuzione delle frequenze delle occorrenze nei diversi codici. Il codice che ha raccolto un maggior numero di occorrenze è *La gestione delle emozioni è una competenza da apprendere*, a conferma della letteratura sul tema dell'intelligenza emotiva che la individua come seconda area di competenza dopo il riconoscimento delle emozioni (Goleman, 1995; 1998). Di seguito, quindi, verrà approfondito l'argomento della gestione delle emozioni che sembra avere diverse ricadute positive nel lavoro. Le ricadute sembrano riguardare soprattutto il dominio sociale, cioè gli aspetti relazionali rispetto all'utenza: non contagiare con emozioni sgradevoli le persone con cui si è in relazione, i colleghi, per mantenere un dialogo efficace, e il contesto di lavoro più ampio, come ad esempio le famiglie degli utenti. Uno stralcio esplicativo di quanto detto è riportato da questa intervistata *“gestire le emozioni diventa una competenza, perché non essendo facile e imparando poi a farlo, sicuramente con il tempo e con l'esperienza, diventa una qualità, insomma che un'educatrice ha in più rispetto a quelle relative all'ambito pedagogico e quindi poterle gestire è una qualità per la relazione, con le famiglie, per evitare fraintendimenti, con i bambini, con le colleghe, un po' con tutti”* (Int_8).

Dalla gestione emotiva sembrano quindi poi derivare altri tipi di competenza come *Scindere la vita privata e la vita lavorativa* come riportato da questa intervistata, che sottolinea la difficoltà di non farsi condizionare dai vissuti personali *“Beh, diciamo che è vero che uno nonostante quando varca la soglia qui dice di lasciarsi a casa tutti i pensieri e i problemi, non è facile, non è facile. Però, d'altro canto uno cerca sempre di andare oltre, cioè di lasciarsi alle spalle quello che c'è a casa. Ognuno di noi poi ha il suo vissuto, le sue difficoltà e cercare di non portarle qui. Certo che non è facile, non è facile perché ci sono giornate ovviamente in cui uno è più tranquillo, sereno, quindi più disponibile nei confronti dei bambini. Ma come d'altro canto lo sono anche i bambini quando arrivano hanno già avuto una mattinata più o meno pesante, come del resto noi, quando, soprattutto arriviamo nel pomeriggio, e quindi abbiamo avuto già una situazione che potrebbe essere difficile o meno. Insomma, quindi è ovvio che non sempre è facile”* (Int_30). Per la gestione delle emozioni non vengono sollecitate solo abilità individuali: una funzione fondamentale la ricopre il contesto di lavoro, come descritto nel paragrafo successivo.

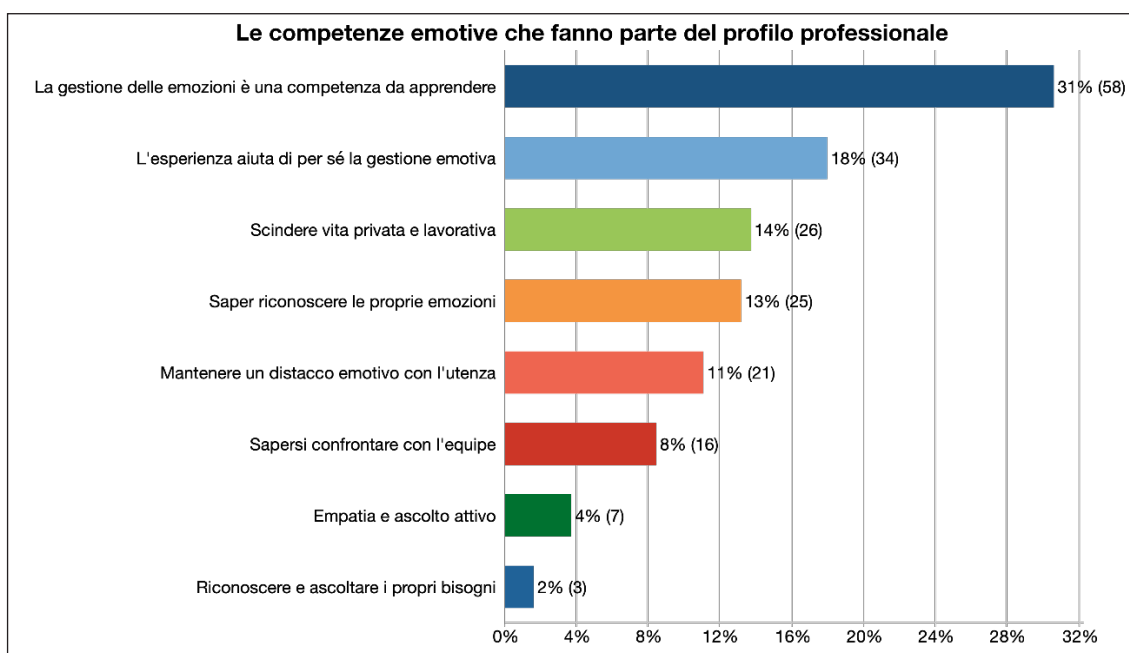


Grafico 1: distribuzione delle occorrenze nei codici appartenenti al tema *Le competenze emotive che fanno parte del profilo professionale*

3.6.2. Il ruolo dell'organizzazione nella vita emotiva dei lavoratori

Per lo sviluppo delle competenze emotive, un ruolo fondamentale lo riveste l'organizzazione lavorativa e i supporti strategici che mette a disposizione, come ben spiegato da uno degli intervistati *“Si può imparare? Sì, sì, assolutamente, ci sono buone pratiche, tante, insomma, ora non voglio prendermi ruoli che non ho, ma tipo le scuole di pensiero, ti ho detto noi approfittiamo del counselling, però non è l'unica via. Ci sono, che ne so, anche riunioni, aule rotonde che tu puoi fare con i colleghi e questo aiuta sempre tantissimo, cioè vincere la pigrizia anche nell'ennesima riunione o dell'ennesimo confronto, ti svolta la giornata perché il tuo punto di vista, per quanto vuoi che sia, è sempre uno, un'altra campana ti fa sempre fare diversamente e che ci siano corsi sulla gestione delle emozioni, anche all'interno del percorso universitario, non so se li hanno aggiunti negli ultimi anni, sono caldamente consigliati, ma anche dopo, c'è il famoso psicologo del lavoro o il counselor del lavoro che in alcune aziende, anche non europee, americane è una figura molto presente, cioè di default, perché ci deve essere e questo in Italia non viene considerato insomma, se fai lo psicologo del lavoro pensano pure che sei uno sfigato, cioè in questo senso, quando invece sono competenze che si possono insegnare, acquisire e poi allenare tutti i giorni, anche non a lavoro, anche a casa, in famiglia in questo senso qua, che poi la persona non è mai slegata da quello che è o dalla vita che fa ha uno spiccato senso quando invece sono competenze che si possono insegnare, acquisire e poi allenare tutti i giorni”* (Int_2).

I servizi maggiormente citati sono quelli riguardanti la supervisione pedagogica, come evidenziato dal Grafico 2.

Come noto, la supervisione pedagogica può essere strutturata secondo diverse forme e tipologie che rispondono ai bisogni strutturali di un'organizzazione lavorativa e dei suoi lavoratori (Oggionni, 2013). Gli intervistati, superando aspetti nozionistici e gnoseologici di questo strumento, ne hanno comunque manifestato un bisogno: *“Cioè, basterebbe anche la possibilità di incontri periodici con un counselor o con un'altra figura o anche con il gruppo educativo, supervisionato però. Cioè noi siamo tanto brave tutte insieme, ma a volte facciamo degli errori madornali perché c'è una mancanza di empatia, di comprensione, ma anche perché non vediamo tutte le emozioni che circolano, ogni persona non viene gestita nel modo adeguato e non ci viene rimandata nel modo adeguato. Quindi talvolta c'è anche tanta ignoranza intesa come mancanza di informazioni e non vuole essere un giudizio, e questo non spetta a noi che stiamo sullo stesso piano. Spetta a qualcuno che sta super partes dire «sì ma questo è perché stiamo vivendo questa cosa; la tua reazione è così perché c'è dell'altro». E non lo possiamo fare noi. Ci serve qualcun altro”* (Int_45).

La supervisione pedagogica, nonostante non fosse nominata nel testo della domanda dell'intervista, è stata citata in tutte le sue forme dai partecipanti e ricopre il 64% delle occorrenze all'interno del tema;

dunque, sembra essere un bisogno condiviso e percepito da quasi tutti gli intervistati che sottolineano come *“sia importante avere un supporto, non solo quando ci rendiamo conto di averlo e di averne bisogno, perché magari in alcune situazioni non ci rendiamo conto di averne bisogno. Penso che una supervisione sia sempre necessaria, che debba essere prevista”* (Int_28). Un supporto fondamentale *“in tutti i tipi di lavori starebbe bene una supervisione fatta bene, nel senso una persona obiettiva, preparata e che si prenda pure la responsabilità, appunto, di fare da mediatore”* (Int_51).

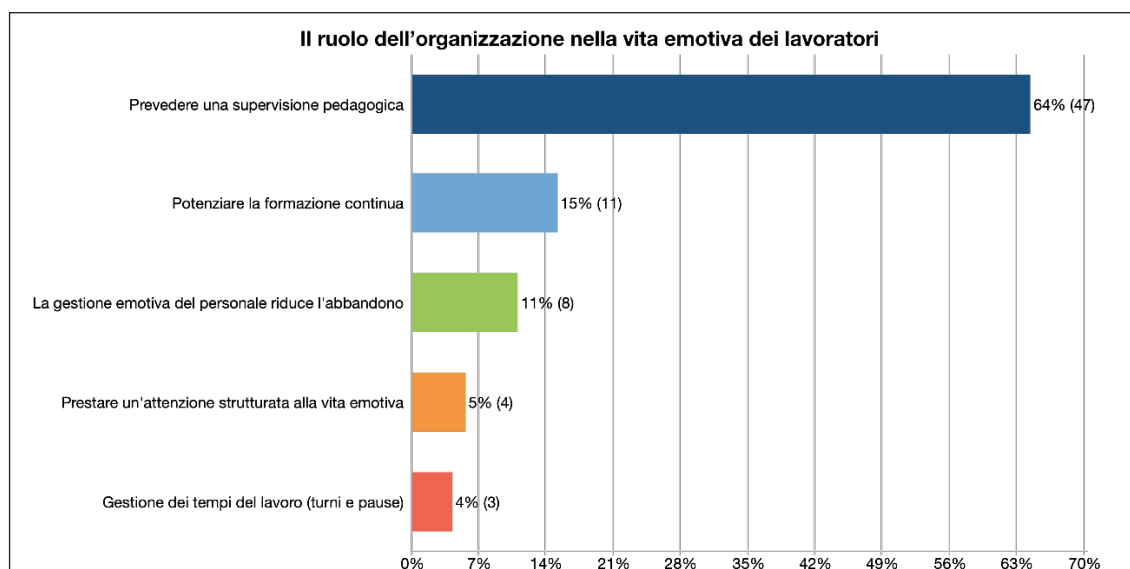


Grafico 2: distribuzione delle occorrenze nei codici appartenenti al tema *Il ruolo dell'organizzazione nella vita emotiva dei lavoratori*

4. Discussione e conclusioni

Il contributo presenta i risultati di una ricerca che ha indagato il ruolo delle competenze socio-emotive nel lavoro educativo, coinvolgendo professionisti dell'educazione appartenenti a diversi contesti e ambiti. Le aree esplorate hanno riguardato gli aspetti del lavoro che coinvolgono emotivamente il professionista - utilizzando come riferimento le cinque aree dell'intelligenza emotiva, approfondendo le emozioni prevalenti nel lavoro, la facilità a riconoscerle e la consapevolezza rispetto alle loro influenze nel lavoro educativo – e il supporto da parte del contesto di lavoro alla gestione degli aspetti emotivi, indagando bisogni, strumenti e strategie messi a disposizione dall'organizzazione al fine di supportare i lavoratori nella gestione degli aspetti emotivi.

A partire dalla considerazione del ruolo centrale che le emozioni rivestono nell'agire educativo professionale, è stato delineato il complesso costrutto di competenza socio-emotiva che, secondo la definizione di Goleman (1998) è «una capacità appresa, basata sull'intelligenza emotiva, che risulta in una prestazione professionale eccellente» (p. 40). A costituire tale competenza sono quindi le abilità di riconoscimento e gestione delle emozioni proprie ed altrui, un dominio di competenza individuale con ricadute nel dominio sociale. La lettura di queste competenze all'interno della prestazione lavorativa richiama il ruolo fondamentale dell'organizzazione nello sviluppo di tali abilità che possono essere supportate e apprese tramite strategie specifiche.

I risultati di ricerca confermano quanto emerge dalla letteratura, identificando dieci temi che possono essere ristrutturati in aree di tipo individuale, di competenza professionale e della funzione che riveste il contesto di lavoro.

In particolare, nella prima area rientrano i temi legati agli ambiti che sollecitano nel lavoratore emozioni piacevoli, come la soddisfazione per il raggiungimento degli obiettivi o il sentimento di gioia che deriva dalla relazione con l'utenza, oppure spiacevoli, come l'affaticamento per l'eccessivo coinvolgimento emotivo o l'ansia e la frustrazione per non riuscire a rispondere dell'utenza. Inoltre, in questa area rientrano le strategie individuali che il lavoratore può mettere autonomamente in atto per supportarsi emotivamente,

come la capacità di ritagliarsi dei tempi personali o la capacità di riflettere sull'origine e la natura delle proprie emozioni.

Nella seconda area rientrano invece le specifiche competenze emotive che fanno parte del profilo professionale, dove la gestione delle emozioni riveste una funzione cardine dalla quale scaturiscono altri ambiti di competenza come l'empatia e la capacità di mantenere un sano distacco o riconoscere, ascoltare e dare seguito ai propri bisogni. In questa area è possibile far rientrare anche il rapporto con l'utenza nella misura in cui è influenzato dal vissuto emotivo del lavoratore e le difficoltà che si possono incontrare nel lavoro che riguardano sia aspetti di vita personale sia i rapporti con i colleghi. Questa area sottolinea quindi la centralità delle emozioni nel lavoro educativo, altro tema emerso dall'analisi categoriale, dove, in un continuo alternarsi di emozioni piacevoli e spiacevoli, viene data enfasi al loro ruolo fondamentale per migliorare il proprio agire professionale.

Infine, una posizione strategica e funzionale per lo sviluppo e un efficace inquadramento delle aree precedenti è giocata dal ruolo dell'organizzazione. Come approfondito in uno dei paragrafi, quest'ultima riveste un ruolo fondamentale affinché i bisogni percepiti dai lavoratori per la cura della vita emotiva vengano ascoltati. I professionisti richiedono un potenziamento degli spazi dedicati alla sfera emotiva, con un riferimento esplicito alla supervisione pedagogica, cioè "un intervento ordinario che ha lo scopo di leggere, analizzare eventi critici e sostenere i processi legati al lavoro, al fine di accrescere il livello di consapevolezza e le capacità individuali e collettive dell'organizzazione" (Oggioni, 2013). La predisposizione di questi spazi, nelle diverse forme e tipologie disponibili, riveste un'importanza fondamentale far convergere, interconnettere e potenziare le competenze professionali (individuali e collettive) di osservazione, analisi e valutazione delle prassi lavorative consolidate (ibidem, p. 15). Un'importanza che si delinea già dalla formazione universitaria, la quale dovrebbe dedicare degli spazi ad hoc alla formazione delle competenze socio-emotive che, come dimostrano gli studi, non aumentano naturalmente con l'aumentare degli anni di corso ma necessitano di una formazione specifica. Una formazione che non dovrebbe essere frontale, ma dovrebbe mettere la persona nelle condizioni di agire sul proprio vissuto emotivo, di saperlo guardare, nominare e gestire. Questo è quello che stiamo cercando di portare avanti all'interno del laboratorio di "supervisione pedagogica al tirocinio come strumento per potenziare l'intelligenza socio-emotiva". Al laboratorio partecipano studenti che stanno svolgendo un percorso di tirocinio e che hanno deciso volontariamente di aderire a un percorso di quattro incontri. Tramite il riadattamento di tecniche di counselling, la persona ha la possibilità di lavorare sul vissuto con il quale si affaccia all'esperienza di tirocinio, con le caratteristiche delle situazioni che lo mettono maggiormente in difficoltà, sull'identificazione dei suoi pensieri, emozioni e azioni quando queste situazioni si presentano e sulla possibilità di individuare delle possibili alternative che permettono delle soluzioni professionalmente più efficaci.

I risultati della ricerca suggeriscono un necessario approfondimento sulla diffusione e l'efficacia di questo strumento di sostegno all'interno dei contesti di lavoro educativo, che ci si propone di condurre con indagini future. I limiti di questo studio, infatti, riguardano il limitato campione d'indagine e la sua tipologia di convenienza che riducono le possibilità di generalizzazione dei risultati. Tuttavia, un primo inquadramento tematico dell'argomento, ottenuto grazie all'emergere dei codici con un approccio *bottom up*, si configura come fondamentale per la ricerca di relazioni tra l'implementazione di servizi e spazi di sostegno alla vita emotiva dei lavoratori e la ricaduta nella pratica educativa. Lo studio sarà ulteriormente approfondito attraverso procedure di statistica lessicale (Bolasco, 2005) attraverso l'analisi delle co-occorrenze (Lucidi, Alivernini & Pedon, 2008) tra codici nel corpus testuale.

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Investigating Psychological Well-being of Primary School Students: Instrument Characteristics and Preliminary Results

Indagare il benessere psicologico degli alunni della scuola primaria: caratteristiche dello strumento e risultati preliminari

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Abstract

There are many factors that influence the well-being, prosocial conduct, empathy, connection with nature, life satisfaction, pro-environmental attitudes and actions, awareness and emotional regulation of elementary school students. This paper presents an initial analysis of an instrument designed to investigate a child's overall well-being through these factors, all of which relate to a positive relationship with self, others and school. The questionnaire was constructed by selecting items from already validated scales for the analysis of each of the above variables. The study was conducted in 14 primary schools in Lazio (N=433) with outdoor education experience, in order to investigate the possible influence of this specific educational practice on well-being. The results of the exploratory factor analysis have shown that we can hypothesize with a very good degree of confidence a construct of child well-being consisting of four dimensions: Caring For Others, Feeling Good About Yourself, Enjoyment Of Nature and Handling Emotions. Finally, ANOVA analyses have been conducted showing significant differences between males and females in the first three dimensions while no significant differences were found in relation to the experience of outdoor education teaching practices.

Keywords: Instrument Characteristics; Primary School Children; Quantitative Study; Well-Being; Connection To Nature.

Riassunto

Sono molti i fattori che influenzano il benessere, la condotta prosociale, l'empatia, il legame con la natura, la soddisfazione di vita, gli atteggiamenti e le azioni a favore dell'ambiente, la consapevolezza e la regolazione emotiva degli studenti delle scuole elementari. In questo studio presentiamo una prima analisi di uno strumento mirato ad indagare il benessere complessivo del bambino attraverso questi fattori, tutti connessi a una relazione positiva con se stessi, gli altri e la scuola. Il questionario è stato costruito selezionando gli item da scale già validate per l'analisi di ciascuna delle precedenti variabili. Lo studio è stato effettuato su 14 scuole primarie del Lazio (N=433) con esperienza di outdoor education, al fine di indagare l'eventuale influenza di questa specifica pratica educativa sul benessere. I risultati dell'analisi fattoriale esplorativa hanno mostrato che possiamo ipotizzare con un buon grado di fiducia un costrutto di benessere del bambino composto da quattro dimensioni: Attenzione verso l'altro, Stare bene con se stessi, Connessione con la natura e Gestione delle emozioni. Infine, sono state condotte delle analisi ANOVA che evidenziano differenze significative fra maschi e femmine nelle prime tre dimensioni mentre non risultano differenze significative in relazione all'esperienza di pratiche didattiche di outdoor education.

Parole chiave: Caratteristiche Strumenti di Rilevazione; Alunni di Scuola Primaria; Studio Quantitativo; Benessere; Connessione con la Natura.

1. Introduction

This study aimed to examine the relationship between several variables related to a positive relationship with self, others, and school: subjective well-being, prosociality, empathy, connection with nature, student life satisfaction, pro-environmental attitudes and behaviors, mindfulness, and emotional regulation (Zahn-Waxler, 1992; Thompson, 1994; Diener et al., 1999; Kollmuss & Agyeman, 2002; Wells & Evans, 2003; Caprara et al., 2005; Burke, 2010).

The literature on the variables related to well-being, prosocial behavior, empathy, connection with nature, life satisfaction, pro-environmental attitudes and behaviors, mindfulness, and emotional regulation in elementary school children is extensive. According to a study by Diener et al. (1999), subjective well-being in elementary school children is positively related to positive emotions, resilience, self-esteem, academic achievement, and strong relationships with peers and family members. Eisenberg and Lennon (1983) found that prosocial behavior in elementary school children is linked to empathy, emotional regulation, a sense of morality, and support from parents and peers. Additionally, empathy in elementary school children is associated with emotional regulation, prosocial behavior, and support from parents and peers (Eisenberg & Lennon, 1983). A connection with nature in elementary school children is related to environmental attitudes, behavior, life satisfaction, and subjective well-being, according to a study by Talbot and Kaplan (2003). Diener et al. (1999) also found that life satisfaction in elementary school children is positively related to positive emotions, resilience, self-esteem, academic achievement, and strong relationships with peers and family members. Schultz (2000) found that pro-environmental attitudes and behaviors in elementary school children are linked to a connection with nature, environmental knowledge, and environmental values. Mindfulness in elementary school children is associated with emotional regulation, resilience, and subjective well-being, according to a study by Burke, Kristeller, and Akincigil (2010). Finally, Eisenberg and Lennon (1983) found that emotional regulation in elementary school children is related to prosocial behavior, empathy, resilience, and subjective well-being. The literature highlights well-being, prosocial behavior, empathy, and related factors in elementary school children, yet a robust theoretical framework is crucial for justifying the study's instrument administration to grade 4 primary school pupils. This framework, rooted in developmental psychology and educational theory, integrates Piaget's stages of cognitive development (1965; 2013), Vygotsky's socio-cultural theory (1967), and Bronfenbrenner's ecological systems theory (1979), offering insights into cognitive, social-emotional, and ecological influences on children. Emphasizing the unique developmental characteristics of grade 4 primary school pupils, including cognitive abilities, social interactions, and emerging moral reasoning, further underscores the significance of this study. However, before investigating the effect of different educational approaches on these latent variables, we wanted to question the validity of grouping these variables into a single instrument, as was done in the study conducted by Pirchio et al. (2021). Instead of adopting a pre-existing instrument, we chose to use exploratory factor analysis (EFA) to ensure the validity and reliability of the shortened scale. EFA can help assess how respondents understand the statements in a questionnaire and lead to the construction of a more suitable and valid questionnaire by refining the items to better capture the construct of interest based on the respondents' interpretations.

The use of a few items from validated scales to construct a shorter questionnaire is a common practice known as scale reduction or item response theory. It is justified by the idea that a small number of items can still provide accurate and reliable information about the underlying construct of interest. However, this practice has been criticized by some researchers, including Nunnally (1978), Streiner (2003), and Brennan (2001), who raised concerns about the potential loss of important information and the difficulty in interpreting the results. By using EFA, we aimed to address these concerns and ensure the validity and reliability of the shortened scale. This work serves as a crucial starting point for advancing the studies on the impact of specific teaching-pedagogical proposals on the variables being considered.

2. Materials and Methods

2.1 Research design

The survey was conducted on a sample of elementary school grade 4 pupils. Pupils were observed and administered an anonymous paper-based questionnaire. Two meetings with pupils were held in each class. The first meeting was aimed at familiarizing the students with the researchers who would later administer the questionnaire and at observing the students during the lessons. Observations were recorded using semi-structured forms, taking into account the environment (indoor or outdoor) and recording some behaviors and attitudes of both pupils and teachers. The second meeting was aimed at administering the questionnaire.

A paper-based questionnaire consisting of 41 statements was administered by pairs of students from the Faculty of Primary Education Sciences of the Sapienza University of Rome, specifically prepared to provide support to the pupils, for example, in case some of the statement terms were not clear enough for them.

The collected data were transferred into an SPSS file. Two pupils who did not respond to 11 and 15 questions respectively were removed. In the rest of the sample, 433 pupils, the missing responses, 0,2% of the total, were replaced with values close to the mean of the responses given for the statement. The SPSS file was then used for analyses.

This paper will present the results of the analysis of the data collected through the questionnaire.

2.2 Research tool

The instrument used in this study is partially adapted from the questionnaire used in Pirchio et al. (2021) and was assembled by selecting items from 9 different instruments all related to the well-being construct: the original scales measuring subjective well-being (adapted from Topp et al., 2015), prosociality (adapted from Caprara et al., 2005), empathy (adapted from Di Giunta et al., 2010), connection to nature (adapted from Cheng & Monroe, 2010), student life satisfaction (adapted from Huebner et al., 2012), pro-environmental attitudes and behaviors (adapted from Musser & Malkus, 1994), mindfulness (adapted from Ristallo et al., 2016 and Veneziano & Voci, 2015a and 2015b), and emotional regulation (adapted from Gullone & Taffe, 2011) in elementary school children. It should be noted that for mindfulness, items were extracted from two different instruments with similar purposes.

In order to obtain an instrument suitable for pupils in the last grades of elementary school. The existing scales were translated or adapted and, when necessary, the language was simplified and statements shortened. For clarity purpose, we chose to keep the original version of the items in English since it would have been difficult to pick up the small differences introduced in the translation. In addition the scales were almost always modified, by reducing the steps and, for prosociality, by adjusting the descriptors as well.

Below is the list of the items selected from each scale to make up the questionnaire, in the order in which they were presented to the pupils. For each original scale, Cronbach's alpha at validation, the total number of items and, when possible, the type of scale originally used for estimation and the one used in this study are also reported.

The well-being scale, the WHO-5, Well-Being Index (Topp et al., 2015) was taken in its entirety and is one of the most widely used questionnaires to estimate subjective psychological well-being. In its original version, it is a 6-point Likert scale ranging in frequency from At no time (0) to All of the time (5), for which the value of Cronbach's alpha varies, in the many different validations by language and target population, from .45 to .89. For this study we used a similar but 4-point scale from At no time (1) to All of the time (4). The items are:

- WB1. I have felt cheerful and in good spirits.
- WB2. I have felt calm and relaxed.

- WB3. I have felt active and vigorous.
- WB4. I woke up feeling fresh and rested.
- WB5. My daily life has been filled with things that interest me.

From the 16-item self-report scale for assessing prosociality by Caprara, Steca, Zelli and Capanna (2005), 4 items were selected and adapted. In this scale, prosociality is the «construct for which, beyond its common-sense meaning—the set of voluntary actions one can take to help, care for, assist, or comfort others.» For each item on prosociality, participants indicated on a 5-point Likert scale whether the statement was never/almost never true (coded as 1), occasionally true (coded as 2), sometimes true (coded as 3), often true (coded as 4) and almost always/always true (coded as 5). The original study had $\alpha = .91$. For this study we used a 3-point frequency scale, Never (1), Few times (2) and Many times (3). The selected items are:

- PS1. I try to help others.
- PS2. I try to console those who are sad.
- PS3. I easily lend money or other things.
- PS4. I spend time with those friends who feel lonely.

The PESE Scale (Perceived Empathic Self-Efficacy) is designed to assess individuals' perceived capability to experience emotion from another's perspective, to respond emotionally and compassionately to others' distress and misfortune, and to be sensitive to how one's actions affect others' feelings (Bandura et al., 2003; Caprara, Gerbino, & Delle Fratte, 2001). PESE has been shown to be positively correlated with empathy, sympathy, perspective taking, and prosociality (Bandura et al., 2003), and negatively related to delinquent conduct (Bandura et al., 2003). Cronbach's alpha for the PESE scale in the Italian sample was .78 (Di Giunta et al., 2010). The selected items are:

- EM1. How well can you recognize when someone wants comfort and emotional support, even if (s)he does not overtly exhibit it?
- EM2. How well can you recognize when a companion needs your help?
- EM3. How well can you recognize when a person is experiencing depression?

The Connection to Nature scale (CNS; Cheng and Monroe, 2010) measures children's affective attitude towards the natural environment. The scale has four dimensions: Enjoyment of nature, Empathy for creatures, Sense of oneness and Sense of responsibility. The scale consists of 24 items and has a Cronbach's alpha of .87. The scale was adapted into Italian by Pirchio et al. in 2021. The following 9 items were selected from this scale, the first 5 of which relate to the enjoyment of nature dimension, the sixth and seventh to the Empathy for creatures dimension, and the last two to the Sense of oneness dimension:

- CN1. I like to hear different sounds in nature.
- CN2. When I feel sad, I like to go outside and enjoy nature.
- CN3. Being in the natural environment makes me feel peaceful.
- CN4. I like to garden.
- CN5. Collecting rocks and shells is fun.
- CN6. I like to see wild animals living in a clean environment.
- CN7. Taking care of animals is important to me.
- CN8. Humans are part of natural world.
- CN9. People cannot live without plants and animals.

From the CNS scale onward, we always used a 4-point Likert scale of agreement from strongly disagree (1) to strongly agree (4), modifying the original scales when necessary. We then included 7 items assessing student life satisfaction, taken from the shortened version of the Multidimensional Student Life Satisfaction Scale (Huebner et al., 2012), which measures youth life satisfaction in five domains: family, friends, school, self and living environment. The scale consists of 30 items and the individual domains have good internal

consistency with Cronbach's alpha values between .71 and .91. The MSLSS uses a 6-point Likert scale with response options ranging from 10 strongly disagree to 60 strongly agree. The selected items are from the School (ST2, ST3, ST4), Living Environment (ST6 and ST7) and Self (ST1 and ST5) domains:

- ST1. There are lots of things I can do well.
- ST2. I like being in school.
- ST3. School is interesting.
- ST4. I enjoy school activities.
- ST5. I like to try new things.
- ST6. I like where I live.
- ST7. There are lots of fun things to do where I live.

The Children's attitudes towards the environment scale (Musser and Malkus, 1994) consists of 25 items that reflect children's knowledge of environmental issues. In the original version of the scale "[...] each item [...] describes two different groups of children. For example, one item reads «Some children turn the lights off when they leave a room, but other children leave the lights on». When the scale is administered, children are first instructed to choose which of the two groups of children described in the statements they are most like. Under each statement there are two boxes (one large, one small) for marking answers. Children check the larger box if they think they are a lot like the children described in the statement. They check the smaller box if they believe that they are only a little like the children described in the statement". The internal-consistency reliability of the scale (Cronbach's alpha) ranged from .70 to .85.

- PE1. Some kids like to leave the water running when they brush their teeth.
- PE2. [...] but other kids think we should recycle.
- PE3. Some kids think outdoor lights should be turned off at night because they use electricity.
- PE4. Some kids worry about air pollution.

Regarding Mindfulness, we referred to two scales: the Italian version of the Child and Adolescent Mindfulness Measure (I-CAMM; Ristallo et al., 2016) and the Italian adaptation of the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R; Veneziani & Voci, 2015a and 2015b).

The I-CAMM scale consists of 10 items divided into two dimensions, 2 items refer to the factor Accepting without judgment "entails nonjudgmental awareness and openness to experiencing a full range of internal events", the other 8 items refer to the Acting with awareness factor "refers to present centered awareness and full engagement in one's current activity". Overall, the 10-item version of the CAMM is used to assess present-moment awareness and nonjudgmental, nonavoidant responses to thoughts and feelings. For this scale, the Cronbach's alpha, which expresses the internal consistency of the total score, is 0.78. Items are self-rated on a 5-point ordinal scale (0 = never, 4 = always). High scores indicate good mindfulness skills. Where appropriate, items were recoded, so that higher scores indicated higher levels of mindfulness. Three items were extracted from this scale, among which MF3 which is related to the Accepting without judgment factor:

- MR1. I think about things that happened in the past instead of thinking about things that are happening right now (reverse scored).
- MR2. At school, I walk from class to class without noticing what I'm doing (reverse scored).
- MF3. I push away thoughts that I don't like.

The Cognitive and Affective Mindfulness Scale-Revised (CAMS-R; Feldman et al., 2007) consists of 12 items aiming to detect a broad conceptualization of mindfulness. "The CAMS-R presents some advantages compared to other scales assessing dispositional mindfulness (Bergomi et al., 2013). First, although it converges in a single total score of mindfulness, it covers all the aspects of this construct: Attention, Present focus, Awareness, and Acceptance.". Respondents rated the items on a 4-point response scale: 1 = Rarely/Non at all, 2 = Sometimes, 3 = Often, 4 = Almost always. The CAMS-R Italian version showed an acceptable level of internal reliability since Cronbach's alpha was .76. Three items were extracted

from this scale, two pertinent to the Attention dimension (MF4 and MF6) and one to the Acceptance dimension (MF5):

- MF4. It is easy for me to concentrate on what I am doing.
- MF5. I can accept things I cannot change.
- MF6. I am able to pay close attention to one thing for a long period of time.

Finally, for emotional regulation we used the Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA; Gullone & Taffe, 2011). The ERQ-CA scale “is a valid age-appropriate measure for investigating the use of 2 specific strategies of ER (Emotion Regulation, ndr) during the childhood and adolescence developmental periods.”. The scale comprises 10 items assessing the emotion regulation strategies of Reappraisal (6 items, $\alpha = .83$) and Suppression (4 items $\alpha = .75$). Items are rated on a 5-point Likert-type response scale. Higher scores on each scale indicate greater use of the corresponding strategy. Three items, all related to the strategy of Suppression, have been extracted:

- MR7. I keep my feelings to myself (reversely scored).
- MR8. When I am feeling happy, I am careful not to show it (reversely scored).
- MR9. When I am feeling bad (e.g., sad, angry, or worried) I am careful not to show it (reversely scored).

2.3 Research sample

The research was conducted on a convenience sample consisting of 433 fourth graders (primary school) attending 14 schools in the Lazio region, mostly in the city of Rome but in different parts of the city. Furthermore, the sample is gender-balanced (Figure 1). Table 1 summarises the sample distribution by the school and the number of class groups.

School	Male	Female	Frequency	Percentage Frequency	Number of class groups
1	12	7	19	4.4	1
2	18	19	37	8.5	2
3	11	7	18	4.2	1
4	42	41	83	19.2	5
5	7	12	19	4.4	1
6	12	7	19	4.4	1
7	10	6	16	3.7	1
8	23	23	46	10.6	3
9	7	8	15	3.5	1
10	15	8	23	5.3	2
11	34	28	62	14.3	4
12	8	2	10	2.3	1
13	22	33	55	12.7	3
14	5	6	11	2.5	1
Total	226	207	433	100.0	27

Table 1: Sample Distribution by the School and Number of Class Groups

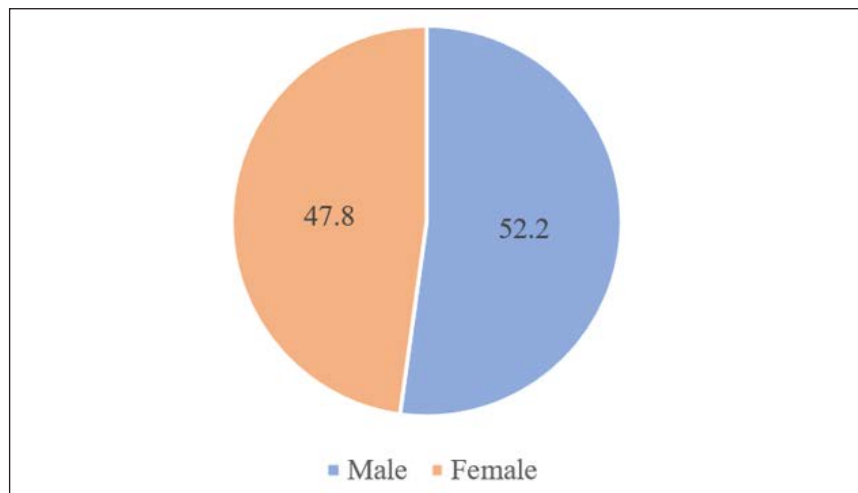


Figure 1: Sample Distribution by Gender

3. Results

A number of analyses were performed on the data: factor analysis as well as the ones aiming at understanding if the data could be explained by a model with a theoretically founded construct. Factor analyses were performed using MPlus v 8.7. (Muthén, 1983), using a WLSMV estimator for categorical or ordinal variables and the goemin rotation. As outlined in paragraph 3.2., an exploratory factor analysis was performed first aiming at verifying the original model consisting of eight factors, corresponding to eight scales from which the statements that form the questionnaire had been taken. The result was not satisfactory as the obtained factors did not correspond to the ones of the model. In addition, many of the items (12 out of 41) had cross-loadings while one item had loadings lower than .200 on all the extracted factors. Even the original scale analysis results demonstrated low values of Cronbach's Alpha, from .408 to .595 for six out of eight scales, with values near .670 for the two remaining scales: Connection to Nature and Students' Life Satisfaction.

At this point, new analyses were performed aiming at identifying an underlying model. Both exploratory factor analysis and scale analysis were performed to eliminate one by one the items that had significant loading problems or whose removal could improve the scale reliability. A four-factor model was reached by combining original items to describe the elements that allow each of us to feel good about him/herself or to be happy. As already demonstrated by a number of research projects, taking care of oneself or having numerous harmonious social relationships (Caring for Others), feeling good about oneself and being happy with own life (Feeling Good About Yourself), spending time in nature / outdoors (Enjoyment of Nature), knowing how to handle own emotions (Handling Emotions), influence not only our mood but also our long-term happiness (Topp et al., 2014). As we can see from Table 2, all scales have high loadings, equal to or higher than .400, and at least one marker item in the factor. The abundance of fit index RMSEA (Root Means Square Error of Approximation, Steiger & Lind, 1980; Steiger, 1990) equals to 0.3 with a 95% confidence interval from .02 to .04 and indicates a small error of approximation (Hu & Bentler, 1999). In the same way, the SRMSR (Standardized Root Mean Square Residual) index at .04 shows an excellent value (Hattie, 1985; McDonald, 1981; Hu & Bentler, 1999). The scree test and the parallel analysis (Figures 2 and 3, respectively) confirm that the four-factor model was a wise choice considering the available data.

Item	Caring For Others	Feeling Good About Yourself	Enjoyment Of Nature	Handling Emotions
PS1	.72			
PS4	.69			
PS2	.65			
EM2	.56			
EM1	.52			
EM3	.32			
ST3		.77		
ST2		.75		
ST4		.63		
MF4		.57		
MF6		.47		
WB5		.41		
WB4		.39		
WB2		.32		
ST7		.29		
CN1			.69	
CN4			.58	
CN6			.53	
CN7			.48	
CN2			.43	
CN3			.42	
MR9				.52
MR7				.47
MR8				.47
MR2				.45
MR1				.39

Table 2. EFA Loadings

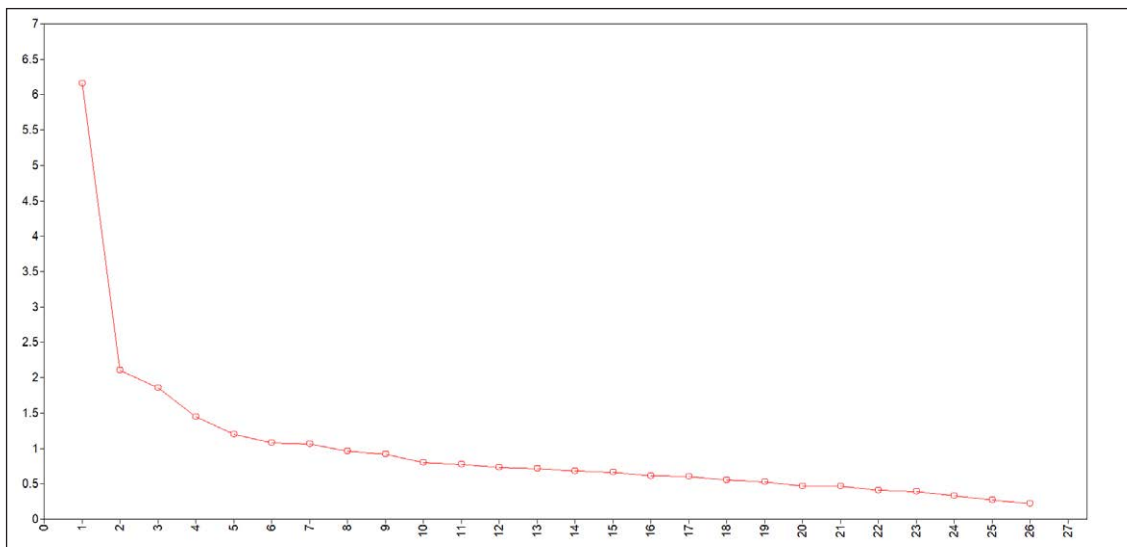


Figure 2: Scree test

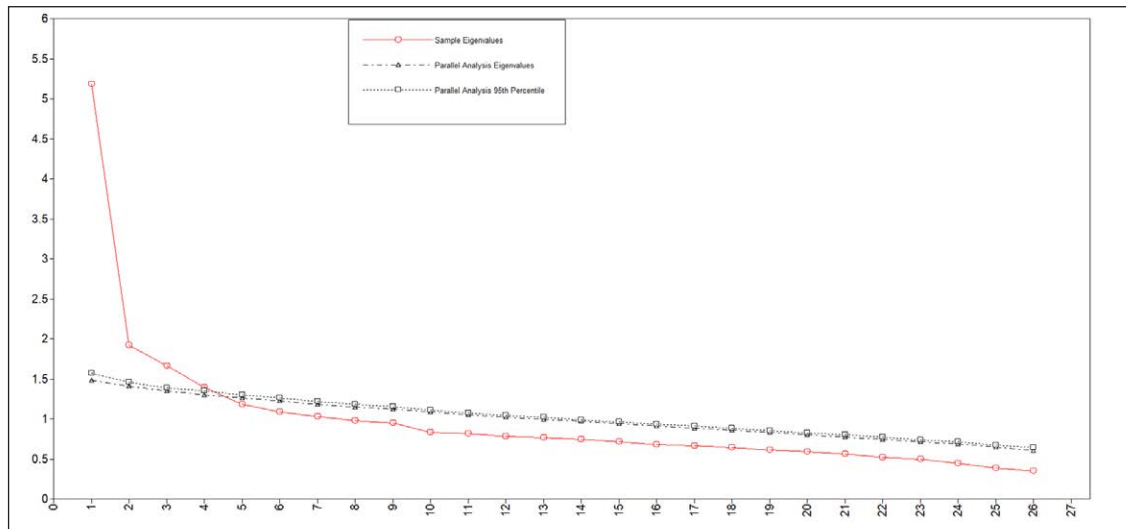


Figure 3: Parallel analysis

The choice not to use chi-square, as a goodness-of-fit test was because, unlike RMSEA, it is sensitive to sample size (as large samples with over 200 participants often have statistically significant chi-square values) and to the non-normality of the input variables.

The scale analysis, shown in Table 3, confirms the obtained results.

Factor	Cronbach's Alpha	N. of items
Caring For Others	.719	6
Feeling Good About Yourself	.744	9
Enjoyment Of Nature	.718	6
Handling Emotions	.472	5

Table 3: Reliability

We can see that the Cronbach's Alpha value is above .700 for all the scales except for Handling Emotions, but it is still a fair value for a pilot study (Nunnally & Bernstein, 1994). It is clear that the Handling Emotions scale requires a more in-depth study, which, even if it does have a factorial structure with more than acceptable loadings, still does not have a satisfactory value of Cronbach's Alpha. We can presume that this is a result of the choice to adapt only three out of 10 items of the Emotion Regulation Questionnaire for Children and Adolescents, all belonging to the Suppression actor, while the Reappraisal factor, concerning the strategies adopted to deal with discomfort and negative emotions, was left out (Gullone & Taffe, 2011).

Finally, a t-test for independent samples was performed with presumed equal variances to compare the scale means with the pupils' gender. Table 4 summarises the obtained results, with 226 males and 207 females in the sample. As we can see, there are statistically significant differences in favor of female pupils, on the Caring for Others and Enjoyment of Nature scales, while for the other two scales, the null hypothesis of equal means can be accepted even though it does require further analyses because the Feeling Good About Yourself scale confidence interval does not contain zero.

Scale	t	df	Sign.	Mean Difference (Male -Female)	SE of Mean difference	95% Conf. int.	
						Lower	Upper
Caring For Others	-4.029	431	.000	-.193	.048	-.287	-.099
Enjoyment Of Nature	-3.999	431	.000	-.208	.052	-.311	-.106
Feeling Good About Yourself	-2.390	431	.017	-.116	.049	-.212	-.021
Handling Emotions	-0.093	431	.926	-.005	.059	-.121	.110

Table 4: Independent Sample t-Test between Means of the Scales

The effect size of the differences measured as Cohen's D is generally medium and varies between .498 and .542.

A similar test was conducted to compare averages with respect to the use of outdoor education practices but no significant difference was found. This result would also merit further investigation considering that many studies attest to the benefits of contact with nature on children's general well-being and physical and cognitive development (Bagot et al., 2015; Collado & Staats, 2016; Pirchio et al., 2021).

4. Discussion

The fact that the EFA identified a model that differed from the initial one and comprised only four factors consisting of items from different instruments seems to confirm Nunnally's (1978), Steiner's (2003) and Brennan's (2001) misgivings about the risks involved in constructing instruments by using items from different complex and articulated scales. In particular, while the majority of scales demonstrated quite satisfactory internal consistency, the Handling Emotions scale showed a lower Cronbach's Alpha, indicating a potential area for further refinement. The decision to adapt only three items from the Emotion Regulation Questionnaire for Children and Adolescents might have contributed to this result. Future studies could delve deeper into this aspect to enhance the reliability of the scale. The observed gender differences in Caring for Others and Enjoyment of Nature scales raise intriguing questions about how societal expectations and individual preferences might influence well-being in elementary school children. Further exploration into these differences could provide valuable insights into tailoring interventions to meet the diverse needs of both genders. The identified factors offer valuable insights for educational practitioners and policymakers. Strategies focusing on fostering prosocial behavior, self-esteem, a connection with nature, and emotional regulation may contribute to the overall well-being of elementary school children. Implementing educational approaches that target these factors could potentially enhance the holistic development of students.

While the present study contributes to the understanding of well-being in elementary school children, certain limitations should be acknowledged. The convenience sample from the Lazio region may limit the generalizability of the findings. Future research could replicate the study with a more diverse and representative sample. Additionally, longitudinal studies could provide insights into the stability and developmental trajectories of the identified well-being factors. In conclusion, this study sheds light on the intricate relationship between various factors and the overall well-being of elementary school children. The derived four-factor model offers a refined perspective, emphasizing the importance of considering multiple dimensions when assessing and promoting children's well-being. As educators and researchers continue to explore these facets, there is potential for the development of targeted interventions that positively impact the lives of young students.

5. Conclusions

This study aimed to reach a four-factor model that describes the elements that contribute to an individual's overall well-being and happiness. Results indicate that the combination of caring for oneself and others, feeling good about oneself, enjoying nature, and handling emotions have a significant impact on an individual's long-term happiness. The obtained four-factor model was found to have high loadings and a low

error of approximation as indicated by the abundance of fit index RMSEA and SRMSR. The Cronbach's Alpha values for the scales were above .700, except for the Handling Emotions scale, which requires further study. A t-test for independent samples was performed to compare the scale means between male and female pupils, and results showed statistically significant differences in favor of female pupils in the Caring for Others and Enjoyment of Nature scales.

The results of this study align with the findings of recent research projects that have demonstrated the impact of caring for oneself and others, feeling good about oneself, enjoying nature, and handling emotions on overall well-being and happiness (e. g. Baumeister & Leary, 1995; Lyubomirsky & Lepper, 1999; Gross, 2002; Park, 2010).

The factor analysis results in a clearer and more consistent construct by identifying four distinct factors, offering a deeper insight into the connection between the items and the underlying concept. While further studies may be needed to enhance the reliability and validity of the scale, the construct as a whole, as identified through factor analysis, is more dependable than the initial collection of items from different studies.

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Unlocking the power of collaborative learning in secondary schools. A transnational comparative analysis between Italy and Malta

Liberare il potenziale dell'apprendimento collaborativo nella scuola secondaria. Un'analisi comparata tra Italia e Malta

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Abstract

This paper presents a transnational comparative study on the use of Collaborative Learning (CL) techniques in lower and upper secondary classes in Italy and in Malta as it analyses the factors which impede its use. The qualitative analysis of open-ended questionnaire data, supplied by participating educators (30 Italian precarious teachers and 50 Maltese Learning Support Educators) at the end of their respective training courses, highlights an appreciation of CL practices besides strong criticism of the factors which inhibit the application of a student-centred philosophy. Findings indicate that teachers in Malta seem to be conditioned by postcolonial socio-cultural aspects, such as a highly centralised education system, a competitive exam-oriented approach to learning and a traditional curriculum-driven attitude to teaching; issues which debilitate the application of CL. Moreover, teachers are seen as reluctant to implement active learning techniques since these are perceived as non-compatible with the inclusion of all students. In contrast, systemic-organisational deficiencies for the recruitment of precarious Italian teachers discourage the use of CL. While resistance from colleagues, students and parents further demotivates upper secondary school teachers, lower secondary school teachers view schools as the ideal places for the experimentation of these techniques. The thematic analysis of focus group data implies an urgency to revisit the understanding of 'education' in Malta, the need for Italian teachers to collaborate with education stakeholders and the necessity of continued professional development which can empower teachers to proactively embrace a 'methodological transition' towards CL.

Keywords: Secondary School Teachers; Barriers; Collaborative Learning; Active Learning.

Riassunto

L'articolo presenta uno studio comparativo sull'utilizzo delle tecniche di apprendimento collaborativo nelle classi della scuola secondaria di primo e secondo grado in Italia e Malta e analizza i fattori che ne impediscono l'utilizzo. L'analisi qualitativa dei dati emersi dai questionari somministrati a 30 insegnanti precari italiani e 50 educatori di supporto all'apprendimento maltesi al termine dei rispettivi percorsi formativi, evidenzia una valutazione positiva delle pratiche di apprendimento collaborativo, ma anche fortemente critica dei fattori che inibiscono l'applicazione di una filosofia centrata sullo studente. I risultati indicano che gli insegnanti a Malta sembrano condizionati da aspetti socioculturali postcoloniali, come un sistema educativo centralizzato ed un approccio all'apprendimento competitivo basato sul curriculum tradizionale. Inoltre, gli insegnanti sembrano riluttanti ad implementare tali tecniche poiché le percepiscono come poco compatibili con l'inclusione di tutti gli studenti. Per i precari italiani, sono le carenze relative al sistema di reclutamento dei docenti a contribuire a tale esitazione. Mentre la resistenza da parte di colleghi, studenti e genitori demotiva gli insegnanti della secondaria di secondo grado, quelli della secondaria di primo grado sembrano vedere nella scuola il luogo ideale per sperimentare le tecniche di apprendimento collaborativo. L'analisi tematica dei focus groups richiama l'urgenza di rivisitare il concetto di "educazione" a Malta, la necessità per gli insegnanti italiani di una alleanza educativa multi-stakeholder e il bisogno di uno sviluppo professionale continuo che consenta di cogliere in modo proattivo la "transizione metodologica" verso le tecniche di apprendimento collaborativo.

Parole chiave: Insegnanti della Scuola Secondaria; Barriere; Apprendimento; Didattica Attiva.

1. Introduction

In the current trend of international cooperation and global integration, schools are required to promote the comprehensive development of students' intellectual, emotional, social and creative abilities. They must empower learners with skills such as critical thinking, cooperation and social awareness, enabling them to make ethical choices in life.

This mission is fulfilled through active learning methods, which involve educators and students in co-constructing knowledge.

European policies regarding teacher education (UNESCO, 2019; Council Conclusions on European teachers and trainers of the future, 2020/C 193/04), encourage teaching methods that facilitate the transition from a purely transmissive teaching model.

In Italy, the National Guidelines for the Curriculum (2012) and the Ministry of Education's Programmatic Guidelines (2021) advocate for competence-based, collaborative teaching methods (Eurydice, 2018). These aim to personalise learning and move away from strict classroom structures towards more open approaches.

In Malta, the National Curriculum Framework (NCF) promotes quality education based on active learning. Furthermore, the Education Strategy for Malta 2014-2024 highlights the importance of collaborative learning techniques that foster critical thinking and problem-solving skills (Ministry for Education and Employment, 2012; 2014).

Collaborative Learning (CL) is a method of active learning (Loh & Teo, 2017). It involves a group of two or more learners in larger groups who work together to solve problems, complete tasks or learn more concepts, having a common goal and shared responsibility. Research which documents the benefits of CL in the academic, cognitive, social and psychological domains is extensive (Johnson & Johnson, 1987; Hattie, 2008; Slavin, 2014; Sharan, 2021; Sidgi, 2022).

2. Benefits and Challenges in Implementing Collaborative Learning

An evaluation of previous studies outlines some of the key benefits of CL.

Benefits for learning ability and cognitive processes

CL moves students from a passive role to a more active role in the learning process. When learners engage actively to co-construct knowledge, a deeper understanding and retention of the subject matter is possible (Andres & Rapp, 2015; Atman & Durak, 2022). This is agreed by Lange et al., (2021) who suggest that the effective sharing of information between group members results in more productive cognitive processing. Harianingsih and Jusoh (2022) identified some advantages as a result of effective CL and claim that: learners learn better through peer explanation; working in groups allows students to design the best way to address assigned tasks; issues are examined from different perspectives and CL allows members to manage tasks which may be challenging for some group members.

Benefits for skill development and for boosting motivation

The social interactions that CL can generate are a precondition for effective CL (Andrews & Rapp, 2015). CL develops personal autonomy through a team-based approach that moves students away from the traditional, unidirectional teaching system and encourages student responsibility for individual and group learning. Sidgi (2022) explains how CL can increase their motivation and satisfaction. In this scenario, the educator renounces control of the learning process, empowering students to shape their classroom experience. This fosters self-control and boosts students' cognitive self-confidence (*Ibidem*). Moreover, better school attendance, improved academic performance, and increased productivity are proven advantages of CL (Munir et al., 2018; Van Ryzin & Roseth, 2022).

CL similarly cultivates empathy by prompting students to view situations from diverse perspectives and approach concepts critically rather than individually.

Despite the evidence supporting the effectiveness of CL, schools continue to rely on traditional methods.

The scientific literature outlines the factors that influence teachers' resistance:

Difficulty in applying collaborative learning principles and time management issues

According to Burke (2011), Tharayil et al., (2018) and Nguyen et al., (2021), teachers are reluctant to modify their teaching approach because of the time and investment needed, but also because they worry about students' resistance to CL.

There are some causes of resistance discovered among students towards CL: inequalities in tasks and work sharing, difficulties to reach an agreement, loss of concentration during groupwork and boring discussions which require time and an effort to actively construct knowledge (Owens et al., 2020). Some students find themselves reliant on passive learning and are not trained to take initiative in a student-centred setting (Bächtold et al., 2022).

Some studies (Mukuka et al., 2019; Liebech-Lien, 2020; Veldman et al., 2020) have shown that teachers refuse to adopt CL in their classrooms due to a lack of resources, a lack of orientation or a lack of Continued Professional Development (CPD) workshops in CL techniques.

The teacher's role as a moderator

Teachers prefer using expository teaching methods in their classrooms to ensure a disciplined class environment and an easier way to assess learners' achievement. In traditional learning setups with exam systems focused on memorisation, teachers often view student collaboration as unnecessary since the emphasis lies on memorising concepts likely to appear in exams. Students' low reasoning ability together with poor communication skills are seen as further obstacles to an effective implementation of CL.

Curriculum fit

CL techniques are demanding in terms of preparation and practice; thus, teachers tend to use traditional teaching to complete the syllabus and have their students pass exams. Although a rigid curriculum does not exclude the application of CL, such practice can be challenging for teachers if they do not have adequate knowledge and trust in it.

CL requires teachers to feel motivated, appreciated and reliable (Murdaca, Oliva & Panarello, 2016; Fiorucci, 2019) and empowered to shape their classrooms and their curricula as they deem fit.

If teachers do not have time to meet, learn, exchange ideas and help each other, it is challenging for them to offer a pedagogy that may be quite different from what they are familiar with.

Insights from Italy and Malta

In the light of extensive positive literature findings, one would expect CL to be widely implemented. Is this actually the case in Italy and in Malta?

Research highlights that teachers in Italy recognise the importance of involving students through CL to achieve social, cognitive, and academic goals, surpassing those attainable in an individualistic or competitive learning context (Caon, 2023) to promote self-efficacy and intrinsic motivation (Magnanini & Morelli, 2021).

The adoption of cooperative strategies through an intercultural approach encourages positive interdependence (Chiappelli, 2016). CL environments promote inclusion (Baschiera, 2014; Sgambelluri, 2016) and enhance tolerance; giving value to less integrated students (Chiari, 2022). However, not all teachers are familiar with CL characteristics and often confuse it with groupwork. Even if secondary school teachers are knowledgeable about the methodology, many do not implement it (Magnanini, 2022) due to challenges in applying the principles of positive interdependence (Chiari, 2022). This difficulty arises because CL demands extensive planning and long-term schemes (Spagnuolo, 2017; Magnanini & Morelli, 2021).

The sole research into student engagement conducted in Malta demonstrates that the pervasive highly

competitive school culture undermines the advancement of CL (NCFHE, 2017). Additionally, research affirms the predominance of a teacher-centric approach in assessment methods (Said Pace, 2018; Giordimaina, 2020). The limited research on the broader CL framework is confined to undergraduate studies focusing on inquiry-based learning (Grech, 2014; Agius, 2016).

Therefore, the question arises as to how CL can be strengthened and promoted within inclusive school teaching.

3. Research Problems, Objective and Questions

This research aims to investigate the implementation of CL in lower and upper secondary schools in Italy and Malta based on the experience of educators and teachers in training at Ca' Foscari University of Venice and the University of Malta.

Specifically, it seeks to understand the current CL practices employed, identify obstacles hindering their use, and propose strategies to overcome these obstacles. This study addresses the need to enhance the understanding of CL methodologies and their challenges within the context of secondary education in both countries, providing insights that can contribute to the improvement of educational practices in these settings.

The following research questions were addressed:

- 1) How are CL techniques used in secondary schools in Italy and in Malta?
- 2) What are the obstacles to their effective use?
- 3) What strategies can be implemented to overcome these obstacles and achieve more participative and motivating learning?

4. Materials and Methods

4.1 Research participants

The study involves a sample of 30 probationary teachers attending the 5 CFU Master's Degree course in Italy aimed at providing teachers with the knowledge and skills to implement inclusive practices in their classroom and 50 Learning Support Educators (LSEs) (whose role is explained in Appendix A) attending the top-up Degree in Inclusive Education in Malta during the academic year 2022-2023.

The Italian participants are mostly female (70%), aged between 30 and 60 years on average (60% are over 45 years old). 26 of them have a university degree: 8 in Humanities, 2 in Cultural Heritage, 1 in Journalism, 4 in Languages, 1 in Geography, 3 in Architecture, 4 in Engineering, 3 in Chemistry. 2 teachers hold a PhD. The sample is evenly distributed between lower and upper secondary schools (16 teachers in the former and 14 in the latter). They have experienced between 4 and 15 years of temporary teaching (40% for 4-7 years; 40% for 8-11 years; 20% for 12-15 years) and 60% have worked at least 2 years as support teachers.

The Maltese participants are mostly females (88%), with an average age between 24 and 56 years and all have a diploma in Inclusive Education. 74% work in middle schools (forms 1 and 2, age of pupils: 11-12), the remaining 26% in secondary schools (forms 3, 4, 5, age of pupils: 13-15). 56% work in state schools, 28% in church schools and 16% in the private sector. 44% have up to 10 years of support experience, 56% between 11 and 20 years.

Although the sample is heterogeneous in terms of qualifications (the Italians are almost all university graduates), professional experience (the Maltese are educators who have never been on temporary contracts) and age (the Italians are slightly older), this exploratory study has focused on these participants because they provide privileged observations in two very different educational contexts (schools in Malta have a British imprint) that are interesting to compare. Maltese undergraduate teachers would not have been exposed to the classroom experience in-depth and therefore they were not considered as potential research participants.

The Italians were able to observe the situation of 152 secondary schools in Northern Italy during their years of temporary work and the Maltese supported pupils with disabilities, working with teachers in different classes in more than half of the secondary schools on the island.

4.2 Data Collection and Analysis

The researchers utilised:

1. a form to collect personal and professional information: age, gender, qualification, length of service, years of temporary work and type of assignment (for the Italian sample), details of years of work for each school considered.
2. an adapted questionnaire (Appendix B) that builds on questions raised by Davidson (2021).
3. focus group discussions.

Once informed consent was obtained, the questionnaires were given to all trainees at the end of their training, after they experienced the main CL techniques. These were completed anonymously and voluntarily by all 80 participants, together with the form on professional and personal data. One month later, the researchers moderated two focus group sessions in each country, enabling an examination of attitudes and perceptions towards CL.

Data were stored in a password-protected online repository, accessible only to the researchers. All recordings were purged and identifiers in the transcripts were replaced with the participants' initial. In the Focus Group Data (FGD) excerpts, this initial is reported instead of the questionnaire number. Results from Italy were translated into English, ensuring that the intended meaning was retained.

Research data were analysed through the six-phase coding framework for Thematic Analysis (TA) which Clarke and Braun (2016) define as a method for identifying, analysing and interpreting patterns of meaning. This enabled a comparative analysis of the open-ended questionnaire data and the responses generated by the focus group interview questions (Appendix C).

After examining and comparing the responses to the open-ended questionnaires and the focus groups, both researchers identified recurring elements and meaning associations, highlighting significant themes and sub-themes (Table 1).

The fourth theme emerged from the focus groups. For the purpose of this article, only some of the key themes are presented here. As for the quotations regarding the first three themes, researchers refer to participants by their country (Italy: IT or Malta: MT), the questionnaire number, the school they belong to (Lower Secondary: LS or Upper Secondary: US for Italians; Middle School: MS or Secondary School: SS for Maltese) and the subject taught (for Italians).

The study's findings' reliability was affirmed through an evaluation of the credibility, transferability, and dependability of diverse data sources (Lincoln and Guba, 1985). To ensure credibility, member checking with FGD and peer reviews were employed (Creswell, 2007). The consistency and alignment of results contributed to demonstrating the dependability of the findings.

Given the exploratory nature of the research, the following data should be considered only as indicative indicators to be further investigated including a larger number of teachers, especially from Italy.

5. Results

Four themes emerged from the analysis of data.

Theme	Sub-themes	Sub-theme features in: Italy/Malta/in both countries
5.1. An appreciation of strategies for active learning	5.1.1 A positive attitude towards CL 5.1.2 Setting as a key factor for the use of CL	Both Both
5.2. Teachers' criticism	5.2.1 The education system 5.2.2 Education resources 5.2.3 Precariousness	Malta Both Italy
5.3. Teacher Resistance	5.3.1 Assessment and inclusion as sources of resistance 5.3.2 Resistance from students, families and work colleagues	Malta Italy
5.4 A proactive vision for the future of education	5.4.1 The need for further training 5.4.2 Cooperation between colleagues and involvement of families 5.4.3 Schools as a place of experimentation 5.4.4 Challenges	Both Italy Italy Both

Table 1: themes and sub-themes which emerged from the thematic analysis of questionnaire and FGD

5.1 An appreciation of strategies for CL

The importance of CL is an aspect which featured across the open-ended questionnaire data supplied by both Italian and Maltese educators. Respondents acknowledged the implementation of these strategies in several primary and in some lower secondary schools in the respective countries and their array of benefits. Respondents claimed that the use of CL techniques is developing into an unavoidable necessity. Moreover, modern classroom environments which are equipped with the latest technology seem to further stimulate and facilitate the application of these learning techniques.

“CL techniques are carried out and increasingly recommended. We are living in a period of transformation and we have reached a turning point: the school of the future will not only be increasingly digital-based, but will promote teaching activities that stimulate CL” (IT-10-LS-Languages).

5.1.1 A positive attitude towards CL

CL bridges the gaps that prevail in the classroom community and whilst it develops the required transversal 21st century skills, it enables learners to develop a sense of responsibility and a feeling of belonging to the learning community. For some educators, the use of CL is ideal to deal with complex interrelation dynamics and to address difficulties related to student motivation and engagement. The majority of participants agreed that CL contributed to the feel-good factor of the class community.

“Collaborative techniques increase skills, by reducing the distance between pupils and developing a sense of belonging” (MT-36-MS).

“From what I could see, teachers have been more consciously trying to apply collaborative techniques, especially brainstorming, role playing and case analysis to actively engage students” (IT-2-LS-Humanities).

“This type of teaching and learning can completely shift the way educators and students perceive schooling” (MT-41-SS).

“I use this way of working especially in the third class with a low level, difficulty in keeping concentration and complex relation dynamics. It appeared clearly that CL techniques are much more motivating, involving and effective for them to achieve the objectives and to build serene relationships among peers and with the teacher” (IT-16-LS-Humanities).

5.1.2 Setting as a key factor for the use of CL

Participants agreed that the nature of the setting can facilitate the implementation of CL techniques. Some teachers in Italy explained that at the High School level, CL approaches are more possible in practical lab sessions.

“In the school where I am doing my probationary year, CL is very much encouraged because the school is equipped with innovative classrooms where the learning environment facilitates this type of teaching” (IT-1-LS-Humanities).

“When students enter the lab, their attitude turns from being passive and mostly absent in the classroom into lively and enthusiastic when they are asked to engage collaboratively in operational tasks” (IT-12-US-Chemistry).

5.2 Teachers' criticism

This second overarching theme was identified as a result of the educators' strong criticism of the education system which, they claimed, discourages the implementation of CL. One Maltese LSE asked:

“Could it be that the heavy curricula and vast syllabi are a contributing factor to some teachers' negative approaches to changes in instructional pedagogies like CL?” (MT-36-SS).

5.2.1 The education system

Ten Maltese participants identified a highly competitive exam-oriented approach to learning, the pressures of a vast school syllabus and a traditional curriculum-driven approach to teaching as factors which undermine the use of CL. Context-specific data reveals how Maltese educators are disempowered by a centralised system, that is characterised by numerous reforms. Several secondary school classrooms in Malta maintain traditional teaching methods, assessment approaches for student knowledge, and limited interaction quality among students.

“In Maltese classrooms, it is the teacher that structures the knowledge that students need to learn and students are to rote learn everything that the teacher presents to them” (MT-18-SS).

“Many Maltese schools still use a top-down approach where normally educators tend to be dogmatic in their way of teaching, and the student is dependent on the information that is provided by the teacher. Most of our teachers still adopt old pedagogies” (MT-41-SS).

5.2.2 Education resources

The majority of both Italian and Maltese respondents claimed that teachers who are motivated to engage in CL practices must seek ways to integrate CL in their teaching. Nonetheless, despite the teachers' efforts to maintain their ongoing professional development and their will to include CL strategies, official education resources such as textbooks and the 'imposed' tight syllabus in the case of Malta are not synchronised with this pedagogy.

“The textbooks in use should be up-to-date on the development of today's citizens' required skills. Yet books appear disconnected from reality. The Italian school asks us teachers to adapt to new teaching styles in order to foster active learning, including CL, but the tools in use at school are not always satisfactory” (IT-23-LS-Humanities).

“Being that our education has put great value in exam assessment with a loaded syllabus, the time and organisation for CL could be challenging. Educators are most of the time rushing through material to manage to cover it all” (MT-45-SS).

5.2.3 Precariousness

One of the major issues affecting teachers in Italy is precariousness, with over 220,000 temporary teachers (De Angelis, 2023). This instability threatens teaching continuity; an essential factor in the Italian education system, though non-existent in Malta. According to the interviewed teachers, temporary employment leads teachers to devote less energy to demanding tasks that are unlikely to continue the following year.

“Although I am fascinated by CL, after 11 years of being a temporary teacher, I have not yet been able to put it into practice but I try to approach it every year. The situation is tough for precarious teachers: we change schools, disciplines and classes every year. Only a small part of a year’s work can be re-used and the preparation of CL activities takes a lot of time” (IT-14-US-Engineering).

“Teachers should change the entire approach to their disciplines, but this requires stability and teaching continuity which precariousness does not allow: if classes change teachers every year, it is difficult to set up innovative methods if they are not continued by future colleagues” (IT-15-LS-Humanities).

5.3 Teacher resistance

An exuberant majority of Maltese respondents claimed that the Maltese secondary classroom features a highly traditional setting whereby the teacher moderates what content is learned, how it is learned, what should be assessed and how it should be examined. Questionnaire data suggests that some of the upper secondary teachers in Italy and secondary school teachers in Malta are uncertain and not sufficiently confident to implement CL practices in their teaching. Others claimed that they fear a degeneration of class control as a result of CL. Furthermore, a number of LSEs from Malta explained that fellow teacher colleagues had a blurred understanding of CL, often misinterpreting this as ‘traditional groupwork’. One Maltese participant described a typical groupwork activity:

“[Teachers] assign an activity to be completed by a number of peers, where work is divided and independently completed. A leader takes over and carries out most of the work assigned. Minimal interaction is present, where some group members contribute reluctantly, while others do nothing at all. Each group member is only accountable for himself. The teacher fails to observe the dynamics of the group and grades are given as a whole group” (MT-8-SS).

Furthermore, educators are reluctant to modify their teaching approaches because of the time that is required for planning.

“One of the main critical issues a teacher encounters when proposing a teaching activity through an active technique is undoubtedly time. It is crucial to accurately structure the activity planning” (IT-10-LS-Languages).

5.3.1 Assessment and inclusion as sources of resistance

The structuring of CL activities is an onerous task. Participants explained that assessing students’ performance and understanding was much easier through a traditional approach since an exam-oriented method is quicker, less time-consuming and individual. In CL, assessment is far more laborious.

“One of the aspects that I find most difficult in this technique is the moment of the final assessment which always remains individual” (MT-6-SS).

Three participants from Malta remarked that although CL promotes an inclusive philosophy, teachers feel helpless as to how they can involve neuroatypical learners. Consequently, these students are excluded from these activities.

“Teachers claim that despite organising different types of student groups, it is difficult to structure these group interactions to foster collaboration, as students with individual needs end up experiencing unequal individual participation. This proves that educators still find it very difficult to adopt strategies where they have to blend students’ abilities into groups” (MT-17-SS).

5.3.2 Resistance from students, families and work colleagues

Teachers from Italy explained that even students themselves contribute to the educators’ resistance to adopt these teaching and learning methods, since they need so much help in so many different domains that the alternative frontal lesson mode becomes the easier option.

“After the pandemic, I have noticed how difficult it is to put these activities into practice. I work with pupils whose problems often discourage alternative methods to frontal teaching. They have grown up without any form of discipline or respect for others, which are fundamental elements of a choral activity. In other cases, the minimum skills provided by the primary school are not enough to understand simple texts or assignments. For all these reasons, I believe that CL can only be applied effectively in other scenarios” (IT-30-LS-Humanities).

“I see that several colleagues use brainstorming and groupwork, but they do not really know what the objective of these techniques is, as they use them very superficially, and then they complain: ‘It takes too much time!’, ‘We have real pupils and not ideal pupils!’ (which means that instead of working in groups they play, laugh and so do the good ones), ‘Today’s kids don’t know anything, they are incapable, you have to do everything for them!’. Finally, even worried mothers come to meet the teachers (my colleagues) and complain that their son always has to be with ‘the losers’ to help them” (IT-26-LS-Music).

The individualistic culture that is one characteristic of contemporary western societies has also been identified as a motive for teachers’ resistance to CL. Interestingly, two Italian respondents claimed that they were sided by colleagues since the fact that they were using innovative teaching strategies could potentially reflect badly on teacher colleagues who were teaching in the traditional way.

“Not all teachers are willing to get involved and innovate their teaching, implementing it with new solutions and ideas: in some schools, those who experiment are viewed with suspicion and are openly criticised or accused of providing a service that falls short of their parents’ expectations” (IT-13-US-Photography, Video).

5.4 A proactive vision for the future of education

A focus group participant likened the state of CL in Malta to someone attempting to walk up a descending escalator. This analogy highlights educators’ willingness to shift from traditional teaching to active student-centred learning, but they face significant resistance hindering progress. Participants propose that for a complete adoption of this methodology, authorities need to re-evaluate organisational aspects like knowledge creation and assessment methods. Additionally, the FGD indicates that teachers in Malta seek more autonomy in syllabus-related matters while also desiring increased accountability for the quality of teaching and learning in their classrooms.

Italian teachers believe that the methodological transition must be gradual but, in any case, it must start now, since the 2012 National Guidelines have been advocating the use of collaborative methods and techniques for more than ten years. Furthermore, teacher training should be aligned with the Ministry’s suggestions.

“Only by implementing CL will we be able to meet the multiple educational needs of each class and ensure that each pupil acquires the necessary skills to become an autonomous and responsible citizen” (IT-F-LS-Languages).

5.4.1 The need for further training

Feedback from eight Maltese educators in the focus group discussion highlights the crucial necessity of training teachers in CL. Empowering confident learners to utilise innovative teaching methods, where students play a role as knowledge mediators, is emphasised. The educators suggest that participation in practical CL workshops could gradually diminish the prevalent competitive culture in Maltese schools and foster a stronger sense of positive interdependence.

Italian teachers regard training in CL techniques as essential. This dynamic process considers professional growth in dialogue with today’s complex society and the variety of new educational needs.

“CL requires very deep training, not just a few hours, it requires a “Copernican revolution” by teachers on aspects of enormous importance, it requires a much broader view of the human being. Until now, teachers have focused on the curriculum to be taught. A real change has not yet taken place. It requires inner work, not just more knowledge. You have to set out on a journey” (IT-C-LS-Music).

“Hands-on training, positive experiences and a clarification of what CL is, might accelerate the phasing out of older teaching models that may not suit today’s post-industrial society” (MT-R-MS).

5.4.2 Cooperation between colleagues and the involvement of families

The Italian teachers who participated in the focus group believe that in order to overcome resistance to CL, it is necessary to cooperate with colleagues and inform families:

“My personal experience in secondary school, has led me to reflect daily on CL, both within classes and within the teaching team, and I consider it fundamental, it is certainly one of the main objectives to be set and achieved. To this end, collaboration (multi- and interdisciplinary activities) and discussion among colleagues, as well as the involvement of families, are fundamental. Of course, the classroom is the main focus: it’s there that pupils need to understand that school is not only about learning knowledge, skills and competences, but also about doing it together, helping and recognising each other, appreciating and being appreciated, accepting and being accepted” (IT-L-LS-Humanities).

5.4.3 Schools as a place of experimentation

FGD revealed that the Italian teachers believe that schools can be a place for experimenting with different teaching techniques; teachers should be able to activate different methods according to their different classes and according to their different learning projects.

They think that pupils are ready for this way of teaching/learning and that it would be important for teachers to be provided with courses, texts and guidelines that are truly embedded in the context (secondary, primary, etc.) and that do not devote too much time to speculation.

They feel the need for CL to be proposed as early as primary school in order to achieve significant results in secondary school and the need to rethink textbooks and resources to be shared among colleagues.

“CL activities should not remain sporadic moments of happiness during the school year, otherwise their importance would be diminished and they would be remembered in the same way as a nice trip. It should be made clear to the pupils and teachers that the playful part of certain activities is not something «allowed» because there is a good behavioural situation, but because it is necessary to constantly and increasingly engage and be creative” (IT-T-LS-Music).

5.4.4 Challenges

Some focus group participants explained that in order to implement real change in schools, it is necessary to accept challenges.

“It is necessary to believe in the endless possibilities of human interaction. When a project succeeds, the whole class group achieves the goal. It succeeds because the process has been taken care of and managed by the teacher in a collaborative way and at a time that allowed it to succeed. It succeeds because the teacher sees beyond the initial obstacles, s/he activates multiple intelligences and mutual strengths, s/he believes in the students’ potential, in their intuitions and interacts wisely. Not an easy task!” (IT-R-LS-Music).

“CL is a creative challenge: inventing projects, various learning paths, settings etc. is very exciting. Seeing the students work, is pure joy. Another challenge is classroom management: getting away from the ‘desk’ and getting close to students. You have to find a new balance and it’s not easy. Losing control is definitely another sore point for many colleagues” (IT-S-LS-Humanities).

“A shift in some teachers’ mentality and way of proceeding has to be made in order to move away from the teacher-centred approach to a student-centred approach. This is a challenge for some teachers but a development which is necessary for the benefit of all students” (MT-M-SS).

6. Discussion and Conclusion

This paper shows an emergent discrepancy between the current traditional practices, the CL principles which key national educational policy documents promote and the educators’ trust in CL techniques. This incongruity calls for context-specific measures that can address the obstacles which impede Italian and Maltese secondary school teachers from implementing CL.

The need to rethink the philosophy of education is the predominant necessity across the two examined contexts.

6.1 The Maltese education system: the challenge to the implementation of CL

The educational context in Malta is influenced by its postcolonial legacy, as highlighted by Mayo and Borg’s research (2015). The current educational model, shaped by 164 years of British rule, remains strongly guided by various British education models.

One concerning aspect raised by Maltese respondents is the issue of ‘inclusion.’ Participants noted that not all students can participate in CL activities, indicating a need to equip teachers with competencies for student-centred teaching. This deficit-based perspective perceives some students as unfitting to the system and exclusive practices are the bleak consequences when, in reality, as Rossini, Zappatore and Loiacono (2015) suggest, peer-tutoring can potentially improve learning and socialisation.

Assessment in Malta remains heavily exam-focused, causing pressure on teachers, students, and families due to the curriculum’s design. This emphasis fosters highly competitive school environments that lack positive interdependence. The prevalent approach to ‘constructing new knowledge’ is curriculum-driven. This aspect, along with the fear of class control and discipline problems mirror the sources of teacher resistance that were identified in research by Mukuka et al., (2019); Veldman et al., (2020) and by Liebeck-Lien, B. (2020).

In Malta’s highly centralised education system, professional development opportunities are typically imposed rather than chosen by practitioners. Despite this, teachers seek alternative training to enhance their teaching methods. Pillay and Elliott (2005) advocate for educators in small island states like Malta to challenge the education system and its conventional approaches. While some participants acknowledge the benefits of CL strategies (Graesser et al., 2020; Munir et al., 2018; Van Ryzin & Roseth, 2022), overall support for CL remains subdued due to teachers’ resistance towards transitioning to student-centred education. To break free from a ‘historical comfort zone,’ teachers must boldly question and reassess their

goals for the teaching and learning process, avoiding compliance with a patronising system that has long failed numerous students.

6.2 Italian teachers: The need for collaboration with colleagues, students and their parents

In Italy, precarious teachers feel disempowered by a system which expects them to give their utmost in a context where they are merely considered as a substitute figure. Education authorities should address the way teachers in Italy are employed in schools so as to ensure more stability.

Since CL gears students towards self-actualisation, teachers feel that the adoption of active learning techniques must start as early as possible. A multi-level approach to this methodological transition must: address the ever-changing realities of 21st century society, understand the needs and the dynamics of the individual students, rethink how physical and virtual educational spaces are utilised, revisit materials and resources and reform the way knowledge is stimulated, shared and assessed. The potential of CL environments to generate knowledge through interaction between learners was confirmed by Tran (2013) and Bembich (2020). The data which emerged from Italian participants implies that schools, can potentially serve as the ideal places for the experimentation of varied teaching approaches and CL structures (Travaglino, 2015).

Two upper secondary school Italian participants explained that some students felt unsure about what they were doing during a CL activity. In this regard, age and maturity may not be sufficient parameters that enable learners to assimilate methods which challenge the comfort zone of traditional teaching methods that some students have been accustomed to for many years. This calls for a shift, not only in teaching methods but also in the students' role along the learning process.

Interestingly, several teachers from Italy claimed that whenever CL methods were used, learners were enthusiastic to participate and behaviour-related issues would diminish. This is confirmed by La Marca, Cappuccio (2020) and Sidgi (2022) who claim that CL develops students' self-management skills, their ability for self-control and their cognitive self-confidence. This prompts educators to embed CL activities as an integral part of the daily scheduled activities and not only as a sporadic event along the year.

Italian focus group participants explained that students are 'ready' for this transition and that stakeholders must cooperate to make this vision a routine practice. For this to materialise, a comprehensive collaborative approach needs to be promoted. Teachers must engage in interdisciplinary teamwork, improve their ability to work more effectively with members of the class teaching team, share their practices and resources with other teachers from other classrooms and cooperate more effectively with parents.

Schools do not consist of a dyad -teachers and students- (Epstein, 2009). According to Dewey (1916), schools represent a privileged place that mirror social life, a miniature community, in constant interaction with other associated experience opportunities. For this vision to become a reality, Italian teachers emphasise the need for the entire community to take full responsibility and for teachers and parents to collaborate (Mura A., Zurru A.L., Tatulli, 2020; Russo, 2021), so that families are accompanied, supported and made protagonists in their children's educational journey (Zollo & Galdieri, 2022).

6.3 Limitations and Future Research

The sample size, although adequate for the study's aim is definitely not representative of the entire teaching community in either country. Considering the limited number of participants, researchers could not collect significant data regarding the specific CL techniques that are adopted, the amount of time that is allotted for the use of CL and the curriculum areas in which it is implemented.

To conclude, this research emphasises the need to develop and evaluate CL programmes (inclusive of online CL) which can address issues related to teaching and learning and for future research to identify the forms and conditions under which CL can support student achievement.

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Conflict of Interest

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Appendix A

A description of the role of the Learning Support Educator (LSE) in Malta

In Malta, a Learning Support Educator (LSE) is expected to support all learners in a class, or learners with a statement of needs to access learning and assessment. LSEs assist the teaching and learning process that is led by the teacher, promote the independence and fulfilment of all learners and collaborate closely and be guided by the teacher and other professionals who may be supporting this endeavour within or beyond the classroom. Under the guidance of the class teacher, LSEs assist in the education of all pupils in class, in particular pupils with special educational needs so that their individual curricular entitlement is ensured and their learning needs are catered for. LSEs are expected to participate fully in Making Action Plans sessions (MAPs) and to develop and implement an Individual Educational Programme (IEP) together with the class teacher by adapting lesson plans and resources. Moreover, LSEs support pupils with individual educational needs in their personal care and hygiene needs. Learners with a statement of needs are assigned the support of an LSE on either a one-to-one basis or on a shared basis (whereby an LSE supports two to three pupils).

Appendix B

Open-ended questionnaire

1. How are Collaborative Learning (CL) techniques used in secondary schools in Italy and Malta?
2. What are some of the benefits of CL that you have witnessed in your experience?
3. What are the main concerns of teachers in deciding whether or not to implement CL?
4. Do teachers implement any form of small group learning or CL techniques?
5. Do teachers with an expertise in CL techniques assist other teachers to succeed?
6. Are teachers designing special CL lessons or are they using it in part of every lesson?

Appendix C

Focus Group Questions:

1. Research shows that there is a lot of resistance to make a radical shift into Collaborative Learning (CL) approaches. In your opinion, what are three main challenges which impede teachers from this shift? Why do you think so?
2. In what ways can teachers be motivated to proactively embrace the shift from traditional teaching to CL techniques?
3. Can you recall instances where you have experienced the implementation of positive CL practices? What rendered these practices successful?
4. How do CL strategies support the inclusion of students with Special Educational Needs (SEN)?
5. What image comes to mind, if you were to think of a metaphor to represent this methodological transition? Why?

E-Portfolio: a bridge between life project and university choice

E-Portfolio: un ponte tra progetto di vita e scelta dell'università

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Abstract

In the Italian education system students must choose how to continue their studies when they finish compulsory education and when they decide to enrol at university. Our work focuses on the choice of the university course and, in particular, on the guidance that students receive in order to make this important decision, which will have a major impact on their future life. Drawing on Bruner's Narrative Psychology and Savickas' Life Design model, we hypothesised that the choice of a course of study should be linked to a wider life project and to personal identity, not least to lay the foundations for a truly decent job. We assumed that to make this connection students would need narrative and individualised tools that could help them see the trajectory of their self from past to future, and that one of these tools could be the e-portfolio. We therefore offered a narrative university orientation, integrated with the possibility of creating an e-portfolio, to a group of nearly 30 Sicilian high school students, with the intention of comparing their results with those of students who had only received a "traditional" orientation, usually consisting of group activities, information days, open days and, more recently, work-school alternation. In this article we will present the reference model, the tools we used and the analyses on this group, which show that young people need more individual support in their orientation, starting from middle school.

Keywords: University Guidance; E-Portfolio; Narrative Psychology; Life Design; Work.

Riassunto

Nel sistema scolastico italiano gli studenti devono scegliere come proseguire gli studi quando terminano la scuola dell'obbligo e quando decidono di iscriversi all'università. Il nostro lavoro si concentra sulla scelta del corso universitario, e in particolare sull'orientamento che gli studenti ricevono per prendere questa importante decisione, che avrà un impatto notevole sulla loro vita futura. Partendo dagli spunti della Psicologia Narrativa di Bruner e dal modello Life Design di Savickas, abbiamo presupposto che la scelta del percorso di studi debba essere collegata con un più generale progetto di vita e con l'identità personale, in modo anche da gettare le basi per la realizzazione di un lavoro realmente dignitoso. Abbiamo ipotizzato che per creare questa connessione gli studenti abbiano bisogno di strumenti narrativi e individualizzati, in grado di aiutarli a riconoscere la traiettoria del proprio Sé dal passato al futuro, e che uno di questi strumenti possa essere l'e-portfolio. Abbiamo perciò offerto un orientamento universitario narrativo, integrato con la possibilità di creare un e-portfolio, a un gruppo di studenti liceali siciliani, con l'intento di confrontarne gli esiti con quelli degli studenti che avevano ricevuto soltanto un orientamento "tradizionale", che di solito consiste in attività di gruppo, giornate informative, open day e, in tempi più recenti, l'alternanza scuola-lavoro. In questo articolo presenteremo il modello di riferimento, gli strumenti utilizzati e le prime analisi su questo gruppo, che mostrano come i ragazzi abbiano bisogno di un maggior orientamento individualizzato, già a partire dalla scuola media.

Parole chiave: Orientamento Universitario; E-Portfolio; Psicologia Narrativa; Life Design; Lavoro.

Introduction

All Italian students must choose how to continue their studies when they conclude compulsory education and when they want to enrol at the university. The present study focuses on the transition between secondary school and university and, in particular, on the guidance that Italian students receive in order to face this important moment.

The theoretical framework for our work is the Narrative Psychology, and particularly Bruner's approach (Bruner, 1988, 1991, 1992, 1995, 1997, 2006). According to this model, people actively search for meaning in their flow of experience, using what Bruner calls «narrative thinking». This is a particular cognitive style, probably innate, that allows people to process their experiences and to interact with the physical and social environment. It complements the paradigmatic thinking, which looks for cause-and-effect relationships and tries to find logical explanations for what happens in the world.

Narrative thinking is deeply related with language, and manifests itself as an internal dialogue, leading to a meaningful internal representation of reality, that is continually negotiated with the social context. In Bruner's narrative theory, personal identity is a narrative construction, a personal narrative that connects and gives meaning to events through a continuous negotiation with the context and the broader culture in which the individual lives (Rossi et al., 2006; Scierri et al., 2019).

Another pillar on which our study is founded is Savickas' Life Design model (Savickas, 2012). This model is based on a narrative autobiography that aims to follow the thread that leads from «the self of yesterday to the self of today and finally to the self of tomorrow» (Savickas, 2013, p. 165). In the modern world of work, which demands flexibility, it is very important that everyone knows how to self-orientate in order to achieve what Savickas (2013) calls «professional adaptability». This is also necessary to move towards *sustainable work*, that is, a work that is meaningful for the individual and that can last throughout the working life. Therefore, as Savickas states, it is necessary to move from the concept of «fitting life to work» to the concept of «fitting work to life» (SACDA, 2021).

Also Robinson (2010, 2015) believes that education systems should fully promote subjectivities, because the competitiveness of today's labour market increasingly demands the ability to create originality, and this can derive precisely from subjective and distinctive characteristics. But even the much-vaunted job flexibility cannot exist without the ability of self-orientation throughout one's working life.

Bruner's Narrative Psychology and Savickas's Life Design model share several assumptions and thus naturally merge. In Savickas' model, the autobiography is written in a special workbook in the form of a structured interview. In our study, however, we used the e-portfolio instead of a workbook, and the work with it was unstructured: students received a flexible guide that only referred to the different sections of the portfolio, which they could fill in as they wished.

According to Rossi et al. (2006), the e-portfolio helps to create a personal reflective narrative through which students become familiar with self-assessment and goal planning, thus taking an active role in their own learning and initiating a circular process between documentation of their own trajectory, personal reflection and projection into the future. From our perspective, the ability to develop this autobiographical reflection requires both narrative thinking and metacognitive competences: the literature review on narrative orientation and on the development of metacognitive skills confirmed that the e-portfolio was a suitable tool for our work (Maree, 2011; Margottini et al., 2017; Priore & Lo Presti, 2019; Savickas, 2015; Scierri et al., 2019).

Technically speaking, an e-portfolio is «any digital system supporting reflexive [*sic*] learning and practice by allowing a person ... to collect, manage, and publish a selection of learning evidence in order to have one's assets recognised, accredited or plan further learning» (EIFEL, 2009, p. 4). Reflective learning is the fundamental aspect that defines the character of the e-portfolio and distinguishes it from a simple collection of evidence of learning or a multimedia curriculum vitae (Barrett, 2008). Reflection, in particular when in written form, activates the narrative processes that support metacognition which, in turn, influences the ability to define learning goals (Cornoldi et al., 2020; Laneve, 2014).

In Italy, guidance is a topic that receives both too little and too much attention. Many students see the choice of a university course as simply related to their favorite school subject or to the desire for a well-paid, prestigious job, but it will have a great impact on their future, and should therefore be linked to a

wider life project and to their personal, life-evolving identity, rooted in the past but projected into the future, in which the job or profession is only a piece of a larger picture.

Italian legislation defines two main approaches to orientation: the first states that it is a task for schools and teachers to help students find their aptitudes and talents. According to this view, teachers should transform routine schoolwork into a process of construction of the self (MIUR, n.d., 2000, 2002, 2014): to expect them to be able to do this, without parallel teacher training and psychological counselling, is probably unrealistic, but it also carries the risk, which is greater when learning is assessed by arithmetic averages, of equating school results with a quality or aptitude of the learner. Another risk of this assumption is that it may lead to the belief that schoolwork is formative *per se*, that is, that it automatically generates self-awareness, reflection and life planning.

The second approach to orientation is the so-called school-work alternation. The first law on this subject was passed in 2003 (Legge Delega 53/03), but was not put into effect until the so-called «Good School» reform (Legge 107/2015). In the meantime the Italian school system and legislation had been deeply influenced by the European *Recommendations on Key Competences for Lifelong Learning* (2006, 2018), which shed a completely new light on school activities and purposes. Also in an effort to comply with these new requirements and objectives, in 2019 a Ministerial Decree (D.M. 774/19) issued the *Guidelines* that operationalised school-work alternation. This Decree changed the name of the alternation to «Pathways for Transversal Competences and Orientation» (PTCO), which consists in requiring the students in the last three years of high school to do a number of hours of work in institutions and companies that have a partnership with their schools, assuming that these activities will help students to develop competences and self-awareness of their aptitudes.

The latest addition to this legislative framework is a Ministerial Decree (MIM, 2022) which makes the use of e-portfolios compulsory for orientation in middle and high schools. At present, Italian institutions are also making considerable efforts to adapt guidance work to the directives of the National Recovery and Resilience Plan (NRRP), which is funded by the European Union and explicitly states that the purpose of orientation should not be the self-promotion of the courses, but the self-knowledge of the students (MIUR, 2022). As this is the first year of its implementation, we will have to wait and see its results in the future.

Since the school-work alternation is a recent innovation, that affects millions of students every year, it seems reasonable to ask whether and to what extent it is really effective. It also seems important to think about orientation models and tools that can improve the work of the schools in promoting the real development of students, just as the European *Recommendations* ask us to do. Therefore, our study wanted to find out whether a narrative orientation, supported by an e-portfolio, could be the answer to these questions, by comparing its results with those of the guidance usually received by students.

Research methods and tools

To select the participants in the high school population, we analysed the different study tracks in the Italian school system. This system is structured in two educational cycles: the first includes primary and middle school, while the second has two main tracks: secondary school and professional/vocational studies. Each track is divided into different sub-tracks, so that there are six different paths in secondary schools, also known as «liceos»: *classical*, *scientific*, *human sciences*, *fine arts*, *languages* and *music and choreography* (Crispoliti & Carlini, 2020). We therefore chose to focus only on the students attending the Italian *classical*, *scientific* or *human sciences* «liceos», since these are the paths that presuppose the continuation of studies at university (Abbiati et al., 2017; Contini et al., 2018; Almadiploma, 2023). Our work was designed to follow up the students longitudinally to monitor the results of the narrative orientation, so the students had also to be in their final year of *liceo*.

In the original design of the study, the sample was supposed to consist of whole classes, some of which would develop an e-portfolio, while others would act as a control group, but we had to resort to a convenience sampling, partly because only the Italian researcher could do the narrative orientation work, and partly because recruitment was hampered by the fact that many of the schools contacted in Sicily didn't

agree to cooperate or did so when the school year was almost over: we therefore had to transform the original quasi-experimental research design into a descriptive one.

The initial sample consisted of 53 students, but some of them didn't meet the inclusion condition of being in their final year, and some dropped out at various times during the work, so in the end there were 28 participants (20 females and 8 males), with an average age of 18. They were all in the final class of a *classical, scientific or human sciences liceo*, and their schools were located in different cities in Sicily.

Since many studies point to the influence of social class or the socio-economic cultural status of the family on the choice of university, both in terms of the decision to continue studying and, in this case, the choice of course, we wanted to investigate this aspect (ISFOL, 2012; Abbiati et al., 2017; Bison, 2017; Contini et al., 2018; Brunetti, 2020; Crispolti & Carlini, 2020; Almalaurea, 2022; Tortuga, 2022; Almadiploma, 2023; ISTAT, 2023). The same studies suggest that social class and socio-economic cultural status can be inferred from family income level (type of parental occupation) and parental level of education. Brunetti (2020) also claims that educational attainment might have a greater impact on social mobility than family income: students with at least one parent who graduated tend to choose to continue studying, often in the same field as their parent. Table 1 and Table 2 present parents' educational level and occupations.

Educational Qualification	Father	Mother
Middle School Certificate	17.9%	25.0%
High School Diploma	50.0%	46.4%
University degree	32.1%	28.6%

Table 1: Education qualifications of parents of the high school students in the initial sample

Occupations	Father	Mother
Homemaker, Unemployed	3.6%	28.6%
Labourer, Executive work	14.3%	7.1%
Artisan, Self-employed	17.9%	3.6%
Employee, Teacher	39.3%	57.1%
Office manager, Freelance professional	25.0%	3.6%

Table 2: Occupations of parents of the high school students in the initial sample

In our study we wanted to use only tools that were easily available and usable by teachers, therefore we chose the Career Interest Profile (CIP: Maree, 2016) and the Ability and Motivation to Study test (AMOS: Meneghetti et al., 2021).

The CIP is a narrative questionnaire, based on Savickas' Life Design model, that aims to elicit autobiographical narrative reflection through several open-ended questions (Maree, 2011). It also provides a list of 19 professional categories and examples of occupations: respondents must rate their five most preferred and five least preferred occupations within them. The CIP also has a grid for matching combinations of preference ratings to a large number of occupations, but this was not used in our work as we were mainly interested in the narrative aspect.

The other instrument we chose, the AMOS test, is a battery of seven questionnaires for both high school and university students. It scores students' answers to identify their strong or weak study abilities, and includes learning tests that can be used as pre- and post-tests when working to improve a learner's study method. In our work we used only the *Study Strategies*, *Study Approach*, *Beliefs*, and *Anxiety and Resilience* questionnaires, on the assumption that weaknesses in these areas may increase the risk of failure at university and that an orientation counselling should therefore take them into account, to help the student improve the weaker skills and hone the strong ones (Cornoldi et al., 2020). The AMOS test explores

beliefs about intelligence and personality, metacognitive skills, the ability to use different learning strategies or to organise materials and time, but it is not intended to provide a global profile of the student.

As the COVID emergency was still ongoing, we had planned to conduct all the activities online. To manage this unusual setting, and in an effort to balance the flexibility required by the qualitative nature of the data with the need to analyse and compare them, we designed a protocol for each operational step of the study.

To enroll the participants we used an online application form, which also served as a means of providing and receiving informed consent from their families, as well as a pre-test to explore the students' doubts or motivations for continuing their studies. To embed the pre-test in the application form, we added some questions at the end, asking the students whether they had already chosen a course (and why, answering to a set of structured options) or not (and why, answering in a short free text). We chose this simple way to avoid overloading the students and to keep the process as straight as possible (see Figure 1). The students' answers were then discussed during the online meetings and also compared with the results of the questionnaires.

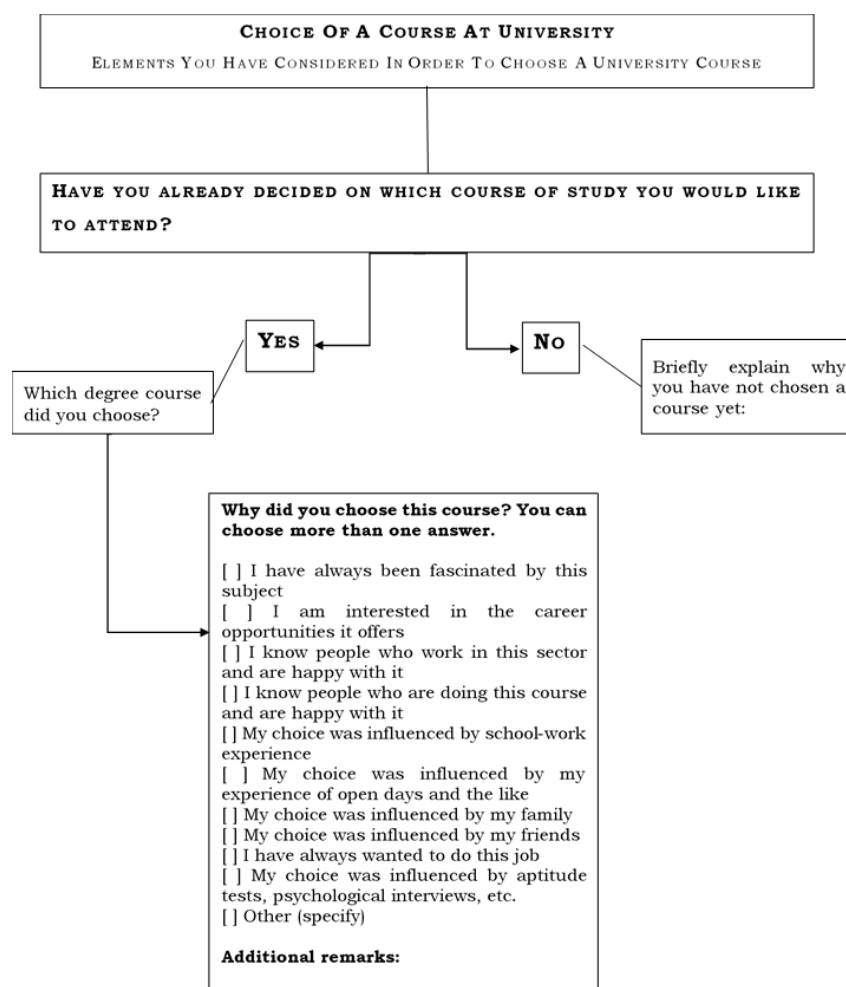


Figure 1: The flowchart used to explore students' doubts or motivations for continuing their studies (in Italian in the original text)

All the enrolled students were then met via video call. During this initial interview, they (and their parents, if they wished to participate) were given information about the work, instructions about the questionnaires, and answers to any questions they might have. They were then sent the questionnaires by email and given a few days to return them.

The development of the individual profile was the most difficult part of the work, as it had to be based only on the questionnaires and the first short online interview with the student. The profile was always discussed with the students and reviewed in a second video call before being sent to them by e-mail.

During this second video call, the purpose of the portfolio and its main features were explained to the students. Those who chose to create one were then given the video tutorial and guide, making it clear that they could contact the researcher at any time, either for clarification or to share the portfolio.

The next step of the study took place the following year, when all the students were in their first year of university. The original goal of the study was to compare the levels of personal and academic satisfaction of the students who had received the narrative orientation supported by an e-portfolio, with those of the students who had only got traditional or narrative guidance. This goal was no longer achievable, so we developed a post-test questionnaire to be administered to a general sample of university students, that would include our initial group, in order to compare narrative and traditional guidance. The target population for the post-test, therefore, was university students, regardless of the course attended and year of study, but not outside prescribed time.

The literature review (Salsona et al., 2019; Constante-Amores et al., 2020; Almalaurea, 2022) suggested dividing the post-test questionnaire into separate sections to collect different categories of information, all relevant to academic success and the purposes of our study: sociodemographic data; general school experience, repetitions; guidance received at school and students' opinion about it; type of PTCO completed and students' opinion about their educational usefulness and the quality of the experience; course chosen, reasons for this choice, and subjective feeling of personal and academic success. A section of the questionnaire was dedicated exclusively to the students who had participated in the narrative orientation project in the previous year, with or without an e-portfolio, in order to learn their opinion about it.

The post-test questionnaire was validated by three independent professors from the University of Murcia (UMU) and administered to 272 university students (216 females, 54 males and 2 non-binary) via the UMU online platform. The average age of these students was 22, with a minimum of 18 and a maximum of 39. They were recruited using a variety of strategies, including social pages of university student associations and groups; to ensure that our initial group was involved, all the students in this group were contacted by e-mail and invited to complete the work started the previous year, as they had agreed to do when accepting to participate in the study. The post-test sample included students enrolled in a wide range of courses: Architecture, Biology, Biotechnology, Chemistry, Communications, Economics, Engineering, Literature, Mathematics, Medicine, Pharmacy, Philosophy, Primary education, Physics, Psychology and Statistics.

We are using the SPSS 24.0 program to obtain descriptive statistics and hypotheses contrast tests.

Results

The first analyses we ran focused on the pre-test questionnaire, where some exploratory questions aimed to find out the students' doubts or motives for choosing a university course. We also analysed the AMOS test answers to get a general idea of the study method, beliefs etc. of the students in the initial sample. For this group, consisting of 28 students, we also had the CIP questionnaire answers: a qualitative analysis of these was planned if the original research design had been successful. As the study became descriptive and the comparison between the pre-test and the post-test was no longer possible, the qualitative aspect was put on the background. However, a first qualitative analysis of the doubts expressed in the pre-test has been carried out, and is highlighted in Table 3.

Answers summary	Code and Groundedness	Doubts expressed in the pre-test
I am afraid of not being able to cope with studying at university.	Feeling of uncertainty Gr=3	3
I have unclear ideas	Confusion Gr=7	7
I do not know what I would like to study I don't know my own aptitudes	Lack of awareness Gr=7	7
I can't decide I don't know what to choose	Indecisiveness Gr=12	12
	Totals	29

Table 3: Doubts expressed by the high school students in the initial sample. «Groundedness» (Gr) indicates the number of quotations coded by a code; please note that a sentence may receive more than one code (Atlas.ti 8 source)

The pre-test questionnaire revealed that, despite being at the end of their final year, 45% of the students had not yet chosen a course. The reasons for their indecision are shown in Figure 2, where it can be seen that several students (22.7%) mentioned a lack of awareness of their aptitudes.

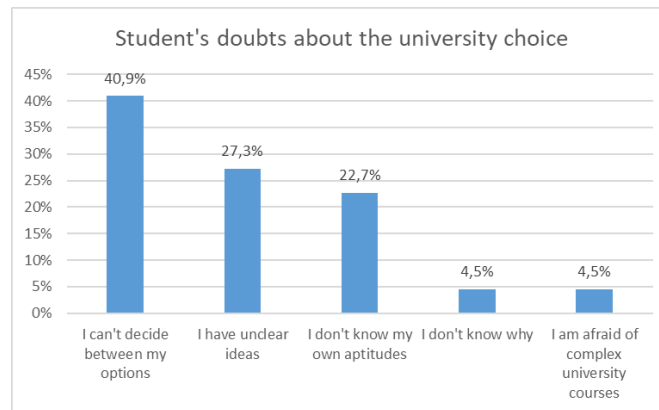


Figure 2: Concerns expressed by the students in the initial sample about their choice of a degree course

These doubts are also presented in Figure 3, that shows them in the student's words. The word «non» was left to indicate the weight of uncertainty for these students.



Figure 3: Word cloud of the doubts expressed by the the high school students in the initial sample (Atlas.ti 8 source)

Students who had already made a decision preferred the degree courses shown in Figure 4, for the reasons presented in Figure 5.

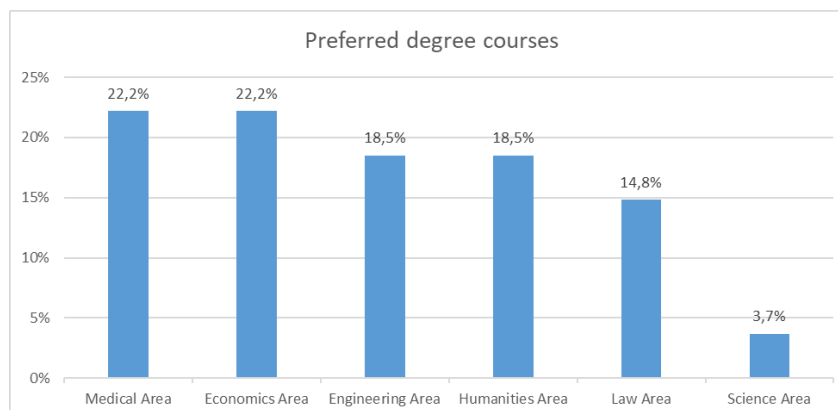


Figure 4: Preferences for courses of study as expressed in the pre-test questionnaire by the secondary school students in the initial sample

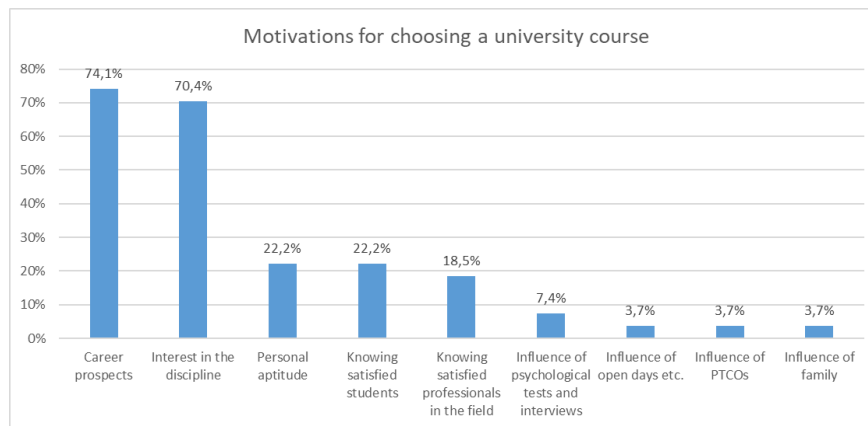


Figure 5: Reasons for choosing a degree course as expressed in the pre-test questionnaire by the high school students in the initial sample. Please note that students could choose more than one option to answer this question

We can compare these answers with those given by the university students in the post-test questionnaire, where they had to indicate their level of agreement with statements about the motivations and goals that had led them to choose a particular university course (Figure 6), together with the elements that they felt had influenced this choice (Figure 7).

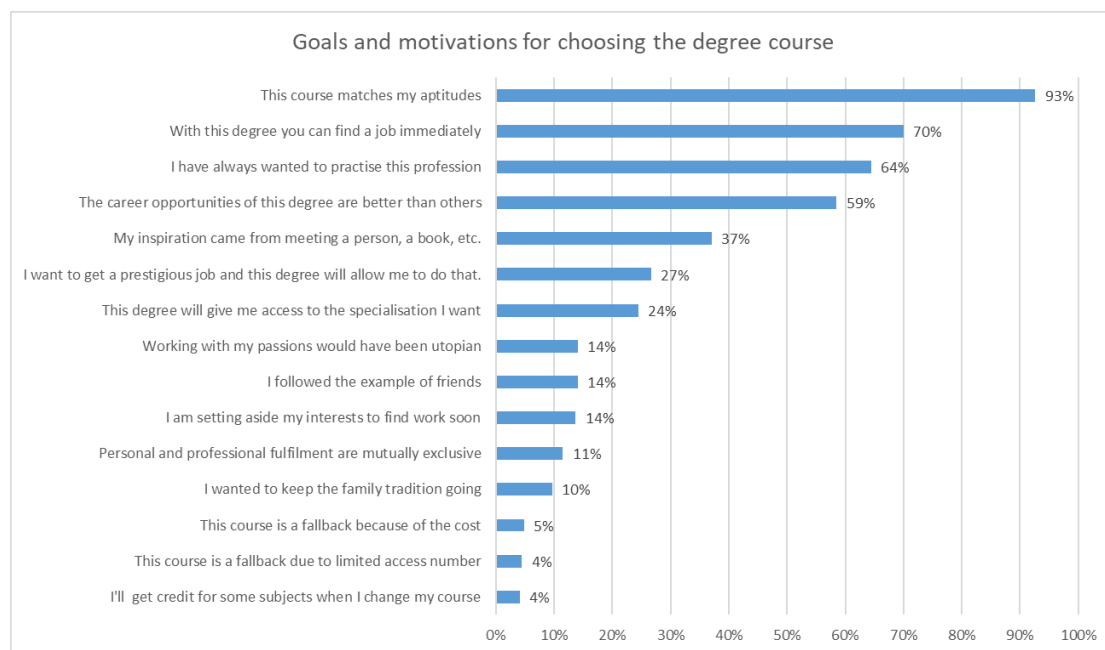


Figure 6: Reasons for choosing a degree course as expressed by the university students in the post-test questionnaire

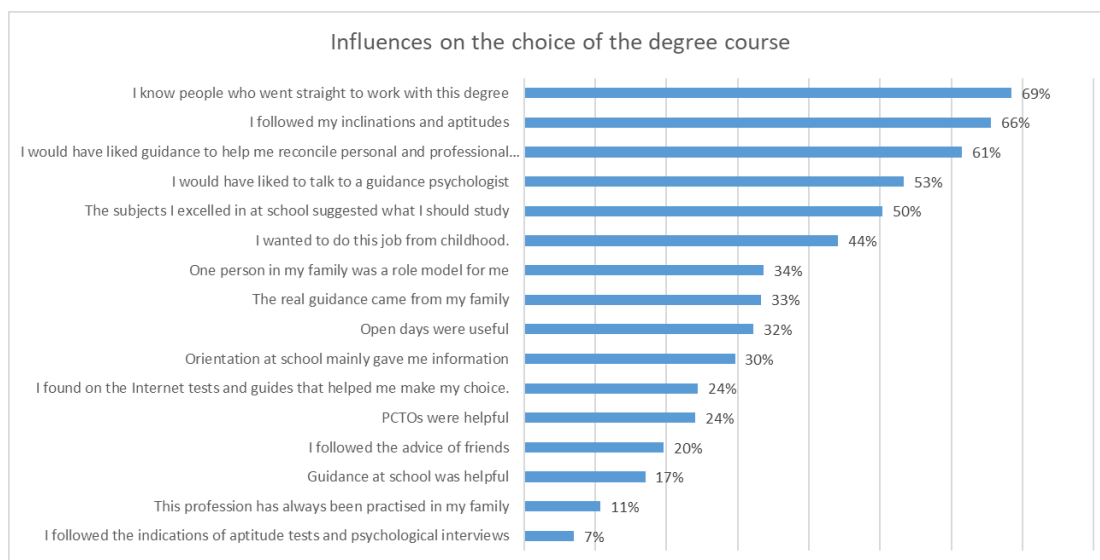


Figure 7: University students' perception of elements that influenced their choice of study

These answers also allow us to see that there is a difference between elements, like personal aptitudes/inclinations and job opportunities, when students perceive them as goals or as influences on their choice of the university course (Figure 8).

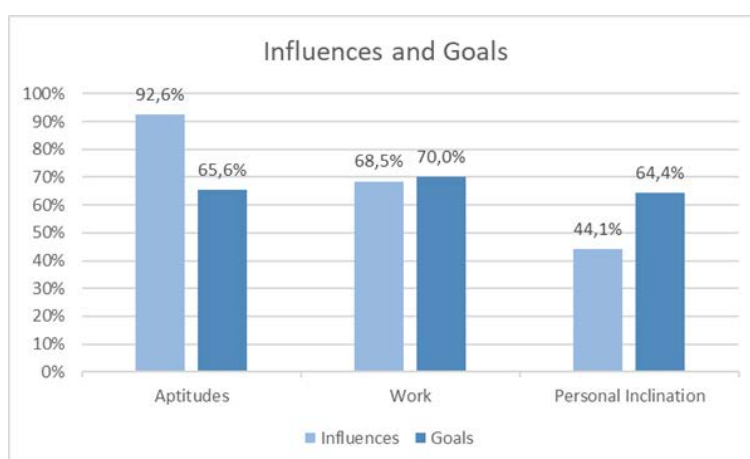


Figure 8: Comparison of the importance given by students in the post-test questionnaire to elements perceived as *goals* for choosing their course or as *influences* on their choice

Job opportunities seem to be the strongest motivation: 70% of the students agree with the statement «With this degree you can find a job immediately» among the goals/motivations, while 69% agree with the statement «I know people who started working immediately with this degree» among the influences.

The study of the initial sample included the analysis of the responses given by the secondary school students to the AMOS test. In this respect, we first observed the dimensions measured by the *Study Approach* Questionnaire (Figure 9), which showed that many students had difficulties in the five areas assessed by the test, particularly in Metacognition, where «very low» and «low» accounted for 50.0% of the total.

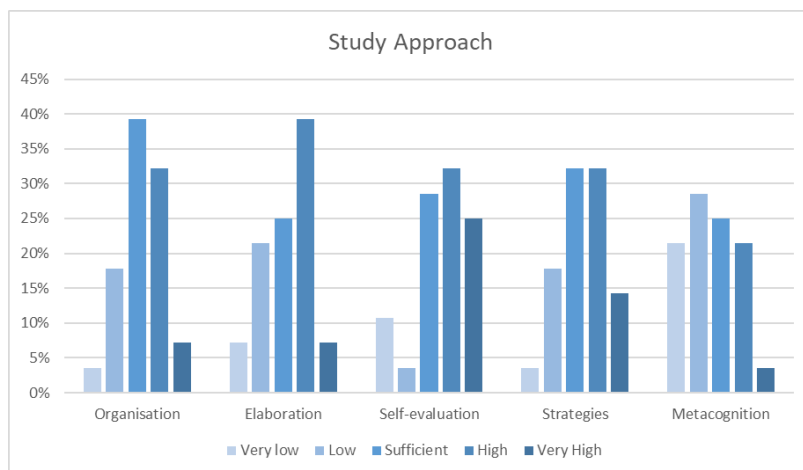


Figure 9: Elements of the study approach as measured by the AMOS test in the initial sample of students

We decided to investigate these results further by comparing the scores obtained in the five areas of the *Study Approach* Questionnaire between the students who had chosen a university course («decided» students) and those of the students who had not («undecided» students). The results are presented in Figure 10, where the greatest differences appear to be in the *Elaboration* and *Metacognition* areas.

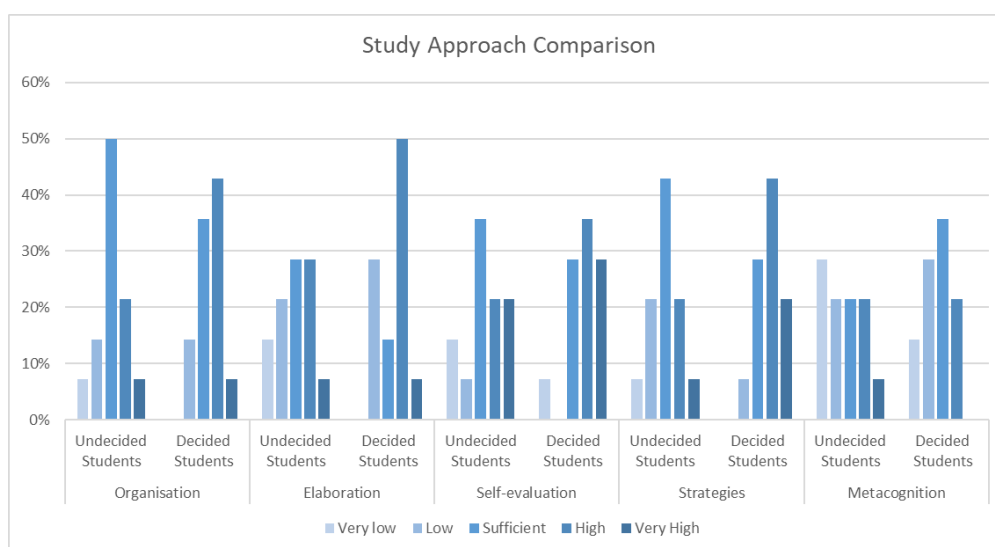


Figure 10: Comparison of the scores obtained by «undecided» and «decided» students in the five dimensions of the *Study Approach* – Questionnaire

The AMOS *Study Strategies* Questionnaire examines whether students know and use effective study strategies, and measures the consistency between the strategies they know and those they use. As can be seen in Figure 11, most students show good consistency (46.4% between «very high» and «high»), but many of them do not seem to know (32.1% between «very low» and «low») or to use (21.4% between «very low» and «low») an adequate number of effective study strategies.

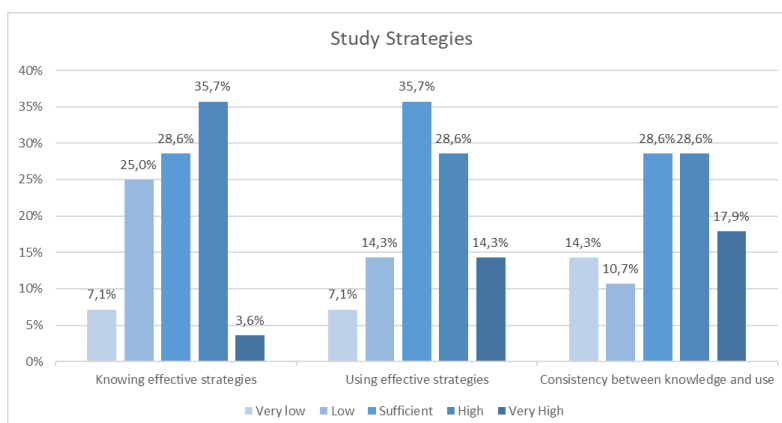


Figure 11: Study strategies of the secondary school students in the initial sample as measured by the AMOS test

The results of the *Anxiety and Resilience* Questionnaire of the AMOS test are shown in Figure 12. Many students present «high» or «very high» levels of Anxiety (54.6% of the total) but also a good Resilience (63.7% between «very high» and «high»), while about 20% of them show «very low» or «low» levels of both Anxiety and Resilience.

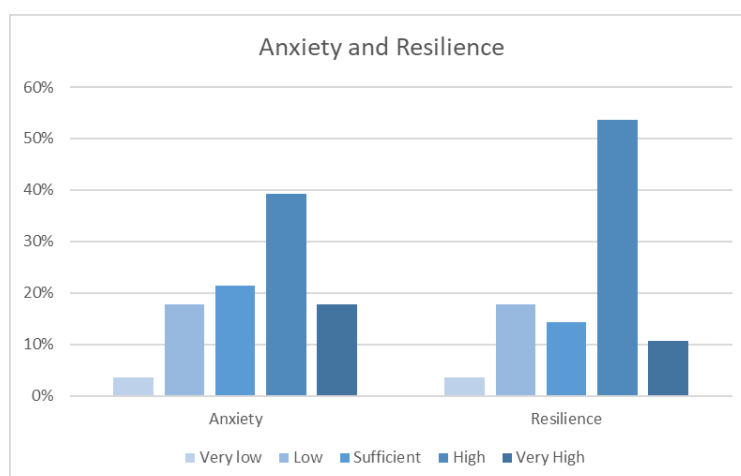


Figure 12: Levels of Anxiety and Resilience as measured by the AMOS test in the original sample of high school students

The AMOS *Beliefs* Questionnaire explores students' theories regarding intelligence and personality, their confidence in their own intelligence and personality, their perception of their own learning abilities and their learning goals. According to the model adopted by the test (Dweck, 2000; Meneghetti et al., 2021), intelligence and personality are defined as opposite extremes of a continuum ranging from «entity» (fixed) to «incremental» (modifiable). Learning goals are defined on a continuum ranging from «performance» (focused on an outcome) to «mastery» (focused on the assimilation of the learning content). In this model, «entity» theories should lead to «performance» learning goals and to a lower motivation to learn. Given the importance of these dimensions in Dweck's model and the AMOS test, we decided to analyse separately the beliefs of the «decided» students and those of the «undecided» students. The students' theories on Intelligence and Personality are shown in Figure 13 and Figure 14: the differences in the two sub-groups appear to be smaller for personality, but more marked for intelligence. Almost half of the «undecided» students (42.8% of the total) expressed a «mostly entity» or «tending to entity» theory of intelligence, in contrast to the «decided» students who instead preferred a «tending to incremental» or «mostly incremental» theory (50% of the total).

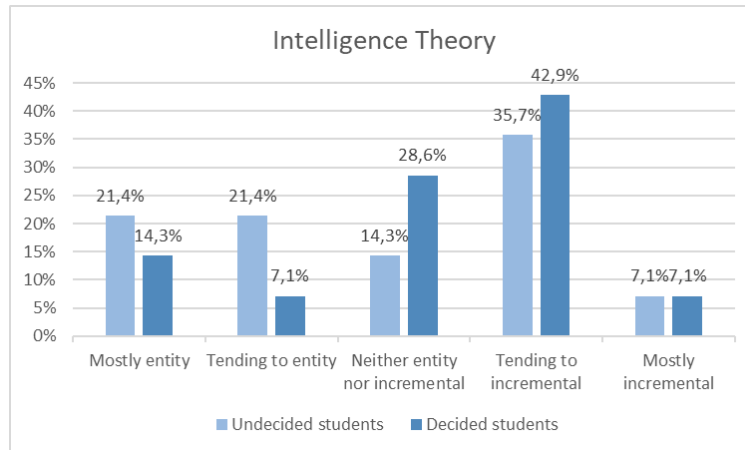


Figure 13: Comparison of the Intelligence Theory between the students who had chosen a course in the pre-test questionnaire and those who had not

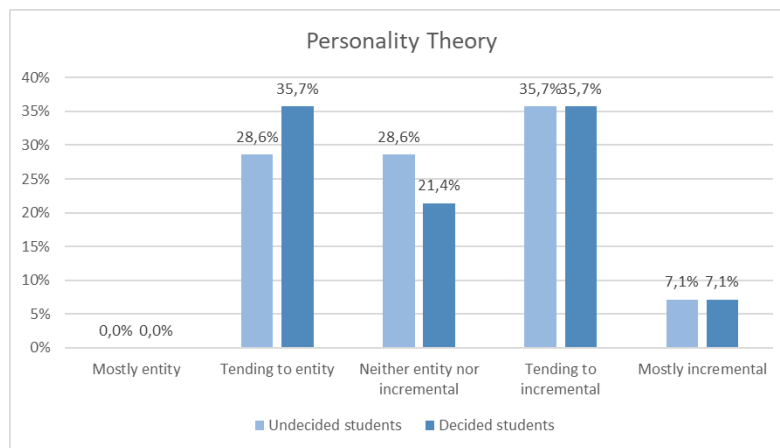


Figure 14: Comparison of the Personality Theory between the students who had chosen a course in the pre-test questionnaire and those who had not

The learning goals of the two sub-groups of students are shown in Figure 15, where it is easy to see that no «undecided» students had «mastery» learning goals, but some «decided» students also had «performance» goals. Almost 80% (78.6%) of the «undecided» students chose «performance» or «tending to performance» learning goals, which were chosen by only 35.7% of the «decided» students. «Mastery» goals were chosen by 57.1% of the «decided» students, versus 7.1% of undecided students.

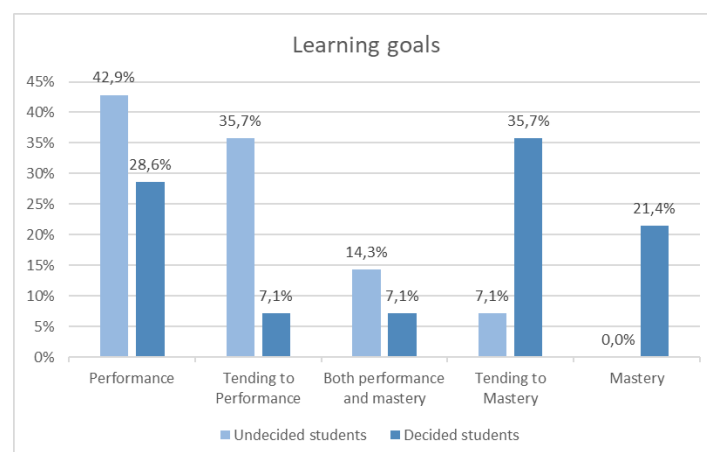


Figure 15: Comparison of students' learning goals between those who indicated a chosen course in the pre-test questionnaire and those who did not

Other dimensions of the *Beliefs* Questionnaire explore students' confidence in their own intelligence and personality, and their perception of their own learning skills. The comparison between «decided» and «undecided» students on these aspects is shown in Figure 16 - Figure 18.

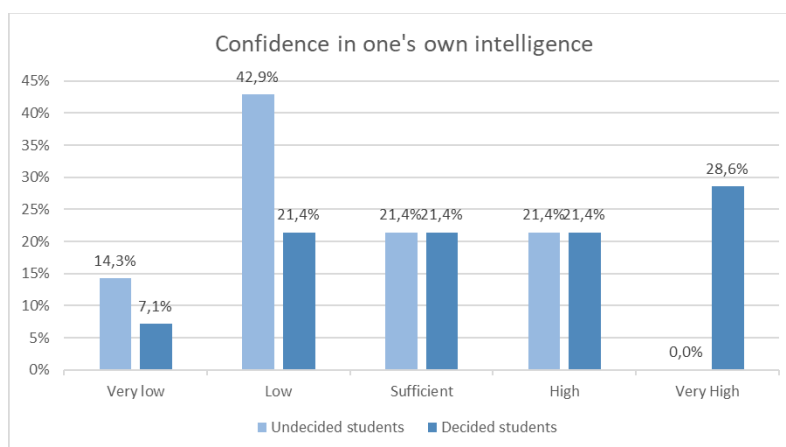


Figure 16: Comparison of students' confidence in their own intelligence between those who indicated a chosen course in the pre-test questionnaire and those who did not

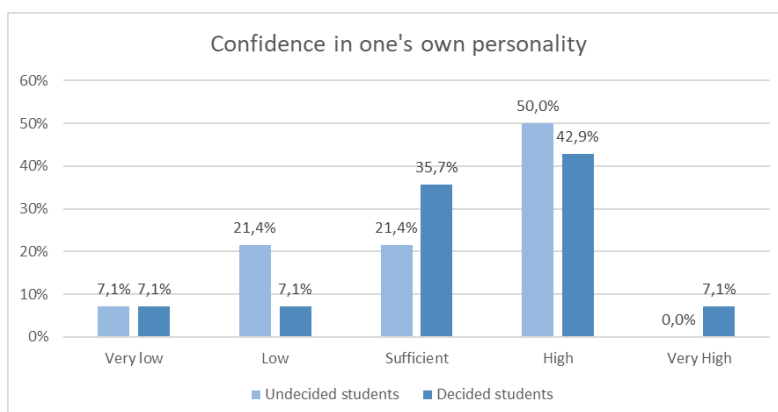


Figure 17: Comparison of students' confidence in their own personality between those who indicated a chosen course in the pre-test questionnaire and those who did not

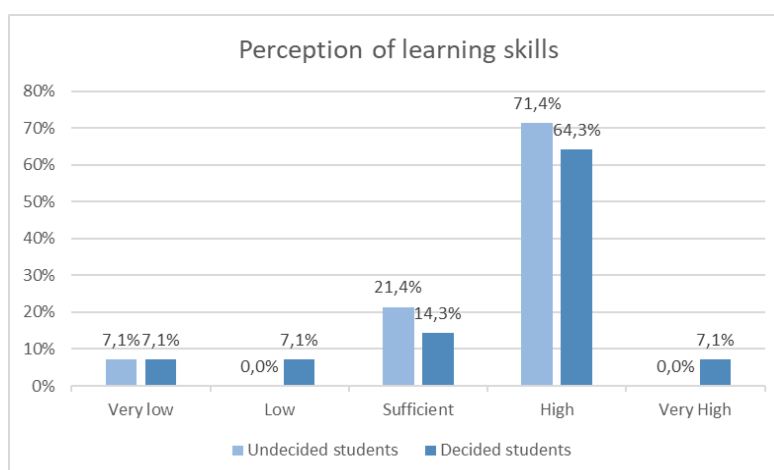


Figure 18: Comparison of students' perception of their own learning abilities between those who indicated a chosen course in the pre-test questionnaire and those who did not

Both sub-groups of students seem to rely more on their personality than on their intelligence, but both sub-groups still rate their learning ability as mostly good.

Finally, in the section of the post-test questionnaire dedicated to the students who had participated in

the Narrative Guidance project, we asked whether they had found it useful to participate. Their answers are shown in Figure 19.

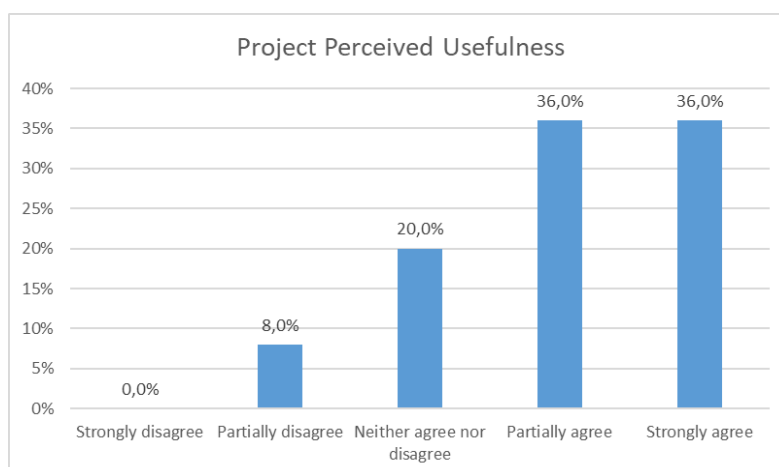


Figure 19: Level of agreement expressed in the post-test questionnaire by students in the initial sample to the statement «Participating in the project helped me in my choice of study and career path»

None of the students involved in the project found the project useless, while most of them «partially» or «strongly» agreed that it had helped them to find the answers they were looking for when they enrolled in the Narrative Guidance project.

The next step of our study focused on the students' perception of PTCO (or school-work alternation), obtained from the post-test questionnaire. The post-test group of students was heterogeneous in this respect: not every student had done PTCO activities, or for the same number of years, partly because of the pandemic interruption, partly because some of the students had attended high school in years when PTCO were not required. In our sample, 76.1% of the students had completed at least one year of PTCO, but not evenly across the three years required by law, as shown in Table 4.

First year of PTCO (Third year of secondary school)	Second year of PTCO (Fourth year of secondary school)	Third year of PTCO (Fifth year of secondary school)
68.8%	61.4%	50.0%

Table 4: Percentage of students who completed PTCO activities for each of the three years required by the law

For a variety of reasons, including their age or the year they were in, students may have been required to do PCTO at different stages of their schooling. As a result, there are also differences in the number of years of PCTO that each student was able to complete, as shown in Table 5.

Number of years of PTCO	Percentage of students
3 years	55.1%
2 years	26.6%
1 year	18.4%

Table 5: Percentage of students who carried out PTCO activities for three, two or one year

To understand what students thought of their PTCO, the post-test questionnaire asked them to briefly describe the activities they had to do and then to rate their usefulness and quality on a five-point scale. The *Usefulness* scale ranged from «Totally useless for my education» to «Very useful for my education», while the *Quality* scale referred mainly to the experience itself and ranged from «Very negative» to «Very

positive». We first analysed the students' answers from a general perspective and found that most of them had a good idea of both usefulness and quality of their experiences, as shown in Figure 20 and Figure 21.

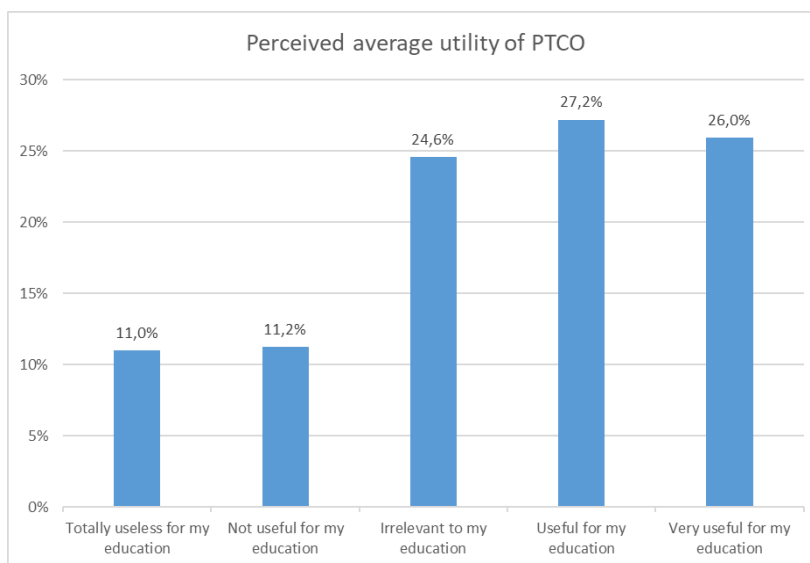


Figure 20: Average usefulness of the PTCO experiences as expressed by the university students in the post-test questionnaire

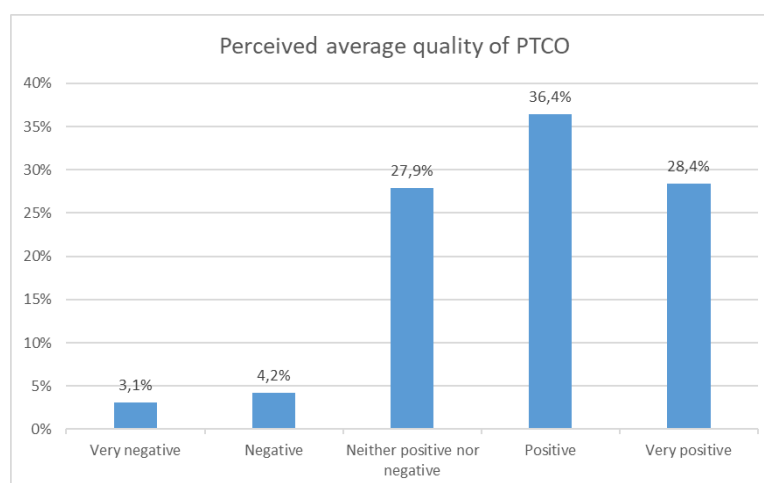


Figure 21: Average quality of the PTCO experiences as expressed by the university students in the post-test questionnaire

Even if many students chose the «neutral» middle answer, the majority of them seemed to perceive positively both the quality and the usefulness of PTCO. According to these data, the number of students who experienced PTCO as a bad or useless experience is low: 7.3% for quality and 22.2% for usefulness.

To deepen this analysis from a more specific perspective, we decided to observe whether the students' perceptions of PTCO varied depending on the school they had attended. As it is already known (Almalau-rea, 2022; Salsone et al., 2019), most university students come from Italian *Liceos*: our sample confirmed this pattern, as well as our intuition to select the pre-test sample from students attending Scientific, Classical or Human Sciences *Liceos*. The percentages of students in our post-test sample from the different types of schools are shown in Table 6.

School	Students	Students who did PCTO
Scientific <i>Liceo</i>	34.2%	35.3%
Human Sciences <i>Liceo</i>	25.4%	27.1%
Classical <i>Liceo</i>	15.8%	15.5%
Linguistic <i>Liceo</i>	8.1%	7.7%
Technical High School	11.4%	10.6%
Professional High School	4.0%	3.4%
Arts <i>Liceo</i>	1.1%	0.5%

Table 6: Percentage of students in the post-test sample coming from the different types of schools and percentage of those, among them, who completed at least one year of PCTO activities

Regarding school, the post-test questionnaire also explored some of the students' beliefs related to their choice of secondary school: Figure 22 and Figure 23 summarise two of them.

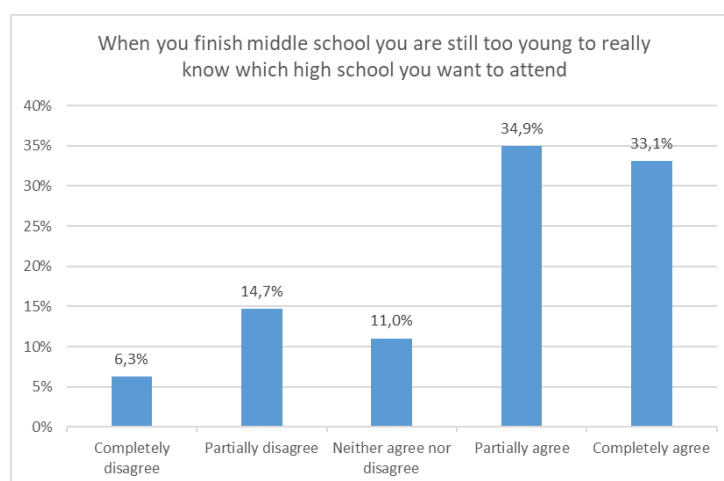


Figure 22: Level of agreement on the statement regarding to the age of the high school choice, as expressed by the students in the post-test questionnaire

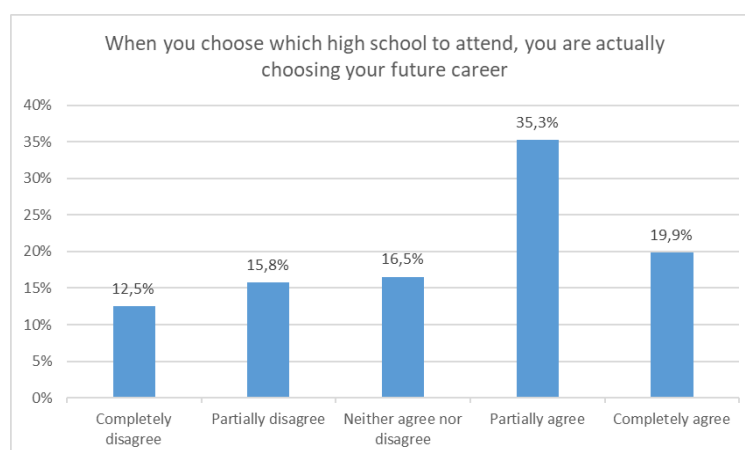


Figure 23: Level of agreement on the statement regarding the link between the choice of high school and career paths, as expressed by the students in the post-test questionnaire

The average ratings of PCTO for each sub-group of students across the three years of secondary school are presented in Figure 24 and Figure 25.

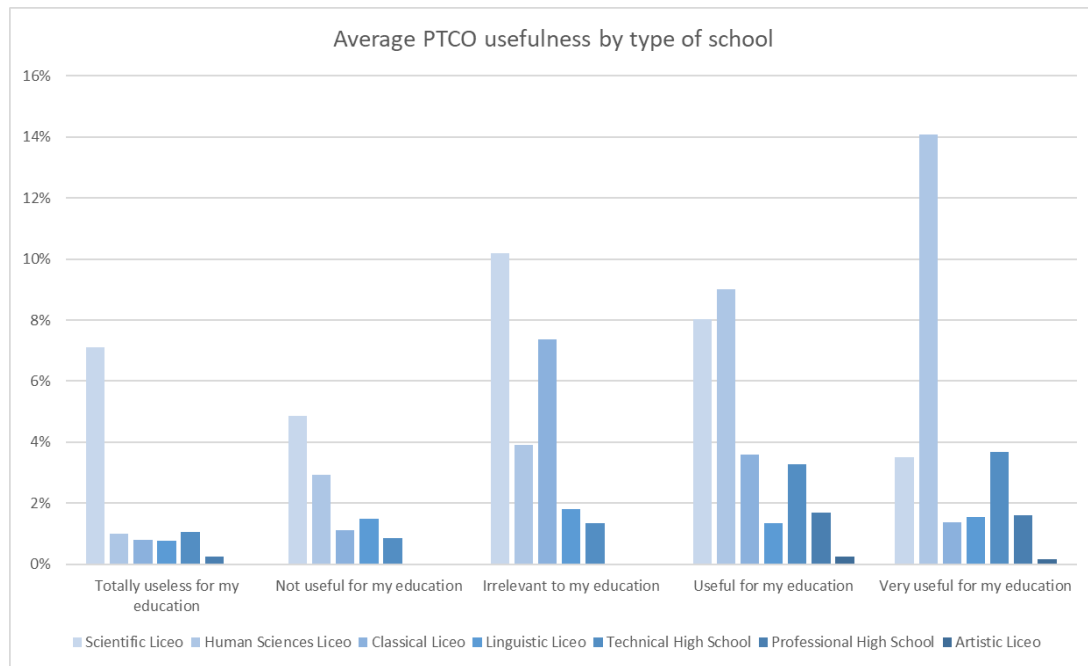


Figure 24: Average perception of the usefulness of PTCO according to the school of origin of the students in the post-test sample

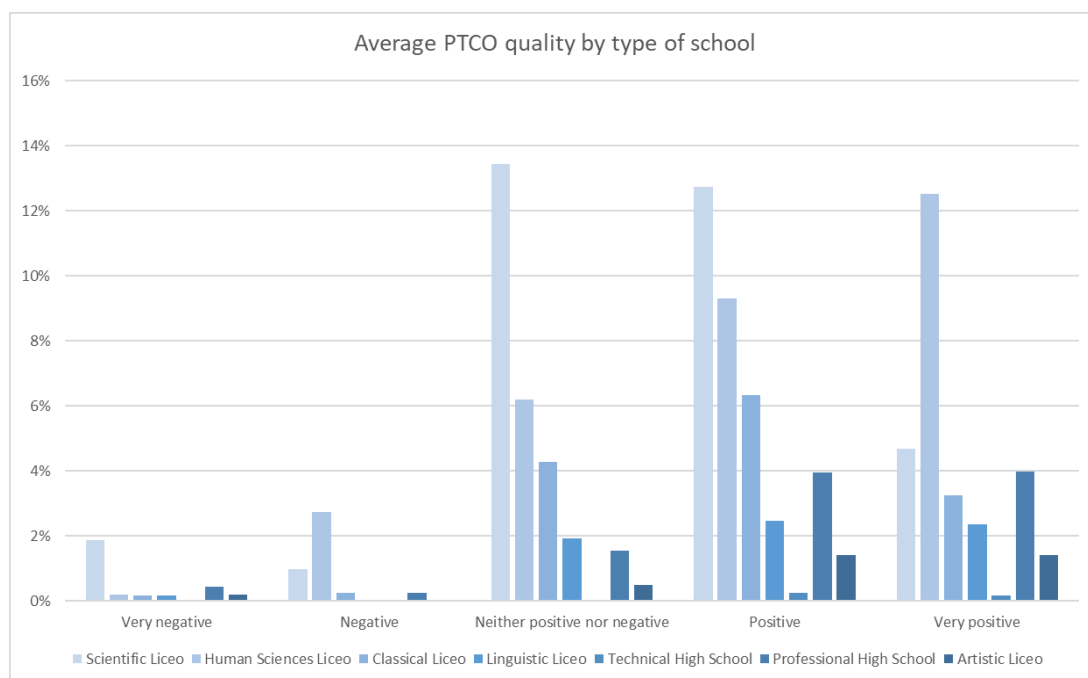


Figure 25: Average perception of the quality of PTCO according to the school of origin of the students in the post-test sample

While the students' ratings of the utility of their PTCO experiences vary according to the schools they had attended, the quality of these experiences is more homogeneous across the sub-groups. Very few students had a «very negative» or «negative» experience and, while for many of them it was unremarkable («neither positive nor negative»), most of them still felt it was «positive» or «very positive».

Discussion and Conclusions

It may be useful to recall that our work revolved around the guidance that students receive at school in order to find their path in life, study and work, and that our hope was to find tools that could be used in schools to carry out this task.

Although it is no longer possible to assess the impact of the e-portfolio on guidance, still we can learn a little more for our study purposes. For example, we can ask whether the perceived usefulness of the narrative guidance could simply be related to the individual attention the students received from the researcher. Perhaps the combination of school work and PTCO for guidance purposes is not able to meet all the different needs of the students, whereas a professional figure, such as a school psychologist, could respond much better to the students' demands and doubts than standardised routines or mass events like Open and Information Days. This hypothesis is supported by the fact that in the post-test questionnaire 53% of the students agreed with the statement «I would have liked to talk to a guidance psychologist» and 61% of them agreed with the statement «I would have liked guidance to help me reconcile personal and professional fulfilment» (Figure 7). The same figure also shows us that the PCTO help in deciding which university course to choose was the same as the online tests found on the Web (24%).

This leads us to think that finding a job seems to be a major concern for young people, probably due to the modern labour market condition, perceived as too fluid and unstable. As can be seen from Figure 8, although personal aptitudes are mentioned as an influence by the vast majority of students, the main goal is to find a job. This is in line with the answers of the high school students in the pre-test questionnaire, where job opportunities are also the main reason for choice (74%: Figure 5).

The AMOS test results, taken globally, suggest that students struggle to find a good study approach and that their theories of intelligence and personality often fail to support their motivation to learn. These are certainly areas where schools can do much, especially given the impact that poor metacognition, study strategies, organisation, etc. can have on learning and academic achievement.

Considering the differences between «decided» and «undecided» students, we can hypothesise that the latter may need more support from the school to gain more confidence in their intelligence and learning abilities, which they may not be able to assess correctly. It would be interesting to investigate whether these beliefs about intelligence are related to a personal history of school failure or struggle, which may lead these students to identify «intelligence» with «school success». Identifying students' dysfunctional beliefs early and correcting them in ways that increase their motivation and sense of self-efficacy may be a simple way to prevent school failure and also contribute to meaningful guidance for young people.

Another aspect that could easily be addressed in schools is the study method. The AMOS questionnaire on Study Strategies (Figure 11) shows that many students do not know and/or do not use effective study strategies. For example, the interviews conducted with the high school students in the first phase of the study revealed that many of them didn't know what a mnemonic was, and consequently had difficulties in memorising technical data, names or dates. Teachers may take it for granted that secondary school students have acquired a good study approach in previous stages of schooling, but maybe it would be better to always investigate this aspect in order to intervene quickly and correct ineffective approaches.

The PCTO analysis based on the different sub-groups of schools also offers interesting elements of reflection. For example, Scientific *Liceo* students seem to be less satisfied with their PCTO usefulness than students in Human Sciences *Liceo* or Professional High School. Again, it is responsibility of schools to offer their students meaningful PTCO experiences, but it can be easier in certain types of schools than in others. While Human Sciences *Liceos* can assume their students will enjoy teaching and working with children, or Technical High Schools can take for granted that their students will enjoy doing office work, Classical and Scientific *Liceos* have to manage a much wider variety of students' interests and goals.

Perhaps the students' perception of the usefulness of their PTCO is linked to the reasons why they chose that particular secondary school at the end of middle school, i.e., what purpose they had in mind for their future by choosing it and what they expected from that type of school. This is a topic that deserves further investigation, but as a starting point we should reflect on the students' beliefs shown in Figure 22 (73% agreed with the statement «When you finish middle school you are still too young to really know which high school you want to attend») and Figure 23 (75% agreed with the statement «When you choose which high school to attend, you are actually choosing your future career»).

Our sample, apart from being small, only includes young people who intend to invest time and money in university education and who are therefore likely to have the resources to do so. But even in this «select» group, young people's main concern seems to be work as such, rather than as a means of personal fulfilment linked to a life project. This is a challenge that teachers and psychologists should take up, for without this assumption there will never be decent work. This concern is underlined by the fact that in the post-test questionnaire 61% of the students agree with the statement «I would have liked guidance to help me reconcile personal and professional fulfilment», so we can suppose that the idea of finding a decent job is really far away from them.

The realisation of our work suffered from the limitations imposed by the Covid pandemic, which allowed us to work only online, and from the long response times of the schools, which penalised the students in the process of their narrative guidance. Taking this into account, it would be interesting to propose the project again in presence, with more relaxed times and involving both students and teachers in the realisation of the e-portfolio as a narrative guidance tool.

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Conflict of interests

The authors declare no conflict of interest.

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Analysis of university academics' training needs: qualitative research at the University of Trento to tailor professional development processes

Analisi dei bisogni formativi dei docenti universitari: una ricerca qualitativa presso l'Università di Trento per costruire processi di sviluppo professionale

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Credit author statement

Sebbene l'articolo sia frutto di un lavoro condiviso degli autori, l'elaborazione dei paragrafi è così attribuita: il n. 1 a Venuti, il n. 2 ad Serbati, il n. 3 e 4 a Maniero, il n. 5 a Serbati e Picasso.

Abstract

The paper presents research implemented by the Teaching and Learning Center of the University of Trento, FormID, aimed at identifying academics' training needs. The action described here is part of a broader intervention that, by connecting a top down and bottom up approach, intends to collect contextual data in order to guide a situated training offer responsive to the real needs of the context. The research consists of several actions: interviews with the members of the Scientific Committee of FormID (Serbati et al. 2023a, Serbati et al. 2023b), interviews with Departmental Teaching Delegates and administration of questionnaires to faculty, in order to collect the perception not only of individual academics, but also of those who, due to their role, may have an overall view of teaching and needs for improvement. The focus of this paper will be the results of the interviews conducted with the 15 Teaching Delegates. The aim is to investigate the following topics: idea of 'teaching quality', most frequently used teaching strategies, use of ICT, critical issues encountered in teaching, and training needs of faculty members. The result is a heterogeneous idea of teaching quality, touching on various dimensions; the choice of active teaching strategies sees a strong differentiation between bachelor and master degrees, in favor of the latter; there is rare use of formative assessment, while the use of video lectures is widespread. The main training needs of academics concern teaching strategies and assessment. The most felt critical issue is the fact that teachers' commitment to teaching is not evaluated for career progression.

Keywords: Faculty Development; Needs Analysis; Teaching And Learning Center; Interview; Teaching Delegates.

Riassunto

Il contributo presenta una ricerca attuata dal Teaching and Learning Center dell'Ateneo trentino, FormID, volta ad individuare i fabbisogni formativi dei docenti. L'azione che si descrive fa parte di un intervento più ampio che, connettendo un approccio top down e bottom up, intende raccogliere dati di contesto per orientare un'offerta formativa situata e rispondente alle esigenze reali del contesto. La ricerca si compone di varie azioni: interviste ai componenti del Comitato Scientifico del FormID (Serbati et al., 2023a; Serbati et al., 2023b), interviste ai Delegati alla didattica dei Dipartimenti e somministrazione di questionari ai docenti, al fine di raccogliere la percezione non solo dei singoli docenti, ma anche di chi, per il ruolo ricoperto, può avere una visione complessiva della didattica e delle esigenze del proprio centro. Oggetto di questo contributo sarà la descrizione dei risultati delle interviste semi-strutturate realizzate con i 15 Delegati. L'obiettivo è indagare i seguenti temi: idea di 'qualità della didattica', strategie didattiche più utilizzate, uso delle ICT, criticità riscontrate nella didattica e fabbisogni formativi dei docenti.

Ne risulta una idea di qualità della didattica eterogenea, che tocca varie dimensioni; le scelte di strategie didattiche attive vede una forte differenziazione tra CdL triennali e magistrali, a favore di questi ultimi; vi è un uso quasi assente della valutazione formativa, mentre si è diffuso l'uso delle videolezioni. I principali fabbisogni formativi dei docenti riguardano la formazione sulle strategie didattiche e sulla valutazione. La criticità più sentita è il fatto che l'impegno dei docenti nella didattica non venga valutato per la progressione di carriera.

Parole chiave: Sviluppo Professionale dei Docenti Universitari; Analisi Fabbisogni Formativi; Teaching and Learning Center; intervista; Delegati alla didattica.

1. Sviluppare la professionalità docente: nuove sfide e prospettive dell'*academic development*

Negli ultimi decenni, con un'accelerazione nell'ultimo triennio, abbiamo assistito a rapidi cambiamenti relativi ai modi di svolgere la gran parte delle professioni, alla richiesta di competenze che sappiano rigenerarsi e riqualificarsi nel tempo, a trasformazioni continue nel comunicare e nell'apprendere. Tutto ciò ha posto l'esigenza di un modo nuovo di guardare alla didattica nell'istruzione superiore chiedendo modalità di insegnamento innovative (Frabboni & Callari Galli, 1999; Galliani, Zaggia & Serbati, 2011). Rispetto all'obsolescenza delle conoscenze, occorre formare la capacità di continuare ad apprendere saperi, abilità e competenze per tutta la vita professionale, assicurando soprattutto la flessibilità degli abiti mentali, la capacità di riadattare le abitudini cognitive in funzione di continui e imprevedibili mutamenti sociali (Baldacci, 2014). Il contributo dell'Università è quindi promuovere non solo lo sviluppo di conoscenze, abilità e competenze specifiche, ma anche competenze trasversali importanti sul fronte professionale così come nella vita quotidiana e in quella sociale: favorire le capacità critiche e creative, le capacità di imparare a imparare, di risolvere problemi trovando soluzioni nuove, di lavorare in gruppo, di usare le tecnologie anche alla luce dell'emergere di nuove forme di lavoro.

In tal senso, è necessario porre maggiore attenzione anche allo sviluppo delle competenze trasversali a sostegno dell'*employability*, del *lifelong* e del *lifewide learning* che vanno a valorizzare e a rendere maggiormente spendibili le competenze disciplinari (Yorke & Knight, 2006).

In risposta alle sfide emergenti della società, la professione del docente universitario sta divenendo sempre più complessa e richiede oggi l'esercizio di numerose competenze, che si aggiungono e trasformano quelle tradizionali, di ricerca avanzata e di insegnamento frontale. Le competenze richieste oggi ai docenti sono molteplici, in parte nuove e necessariamente integrate in un *habitus* professionale composito.

A livello internazionale il dibattito sulle competenze del docente universitario è avviato da tempo (Tigelaar et al., 2004; Fabrice, 2010; Pleschová et al., 2012). Come evidenziano le linee guida Quarc-docente (ANVUR, 2017) e la letteratura (ad esempio van Dijk et al., 2020), le competenze richieste ai docenti universitari contemporanei sono le seguenti:

- competenze disciplinari e teoriche riguardanti i contenuti e i metodi specifici della disciplina;
- competenze pedagogico-didattiche relative ai metodi, alle tecniche e agli strumenti per progettare, organizzare, condurre e valutare l'attività di insegnamento e apprendimento;
- competenze comunicativo-relazionali, legate alla comunicazione inter-personale;
- competenze organizzativo-gestionali, riguardanti l'organizzazione e la gestione degli ambienti e dei processi di apprendimento;
- competenze di scambio e di costruzione di comunità di pratica, quelle di miglioramento e apprendimento continui.

Si tratta di competenze connesse alla capacità di comprendere e facilitare i processi di apprendimento degli studenti, anche con l'uso delle ICT (Coggi & Ricchiardi, 2020).

Il profilo del docente universitario dovrebbe quindi definirsi, a partire da una solida competenza disciplinare, in un rapporto proficuo tra attività di insegnamento e di ricerca (Boyer, 1996). Un insegnamento di qualità implica che il docente non si limiti semplicemente alla conoscenza della sua disciplina, ma che padroneggi anche le teorie dell'apprendimento e sia consapevole dell'esistenza di molteplici metodi di insegnamento per favorire differenti tipi di apprendimento negli studenti (European Commission, 2013). La stessa qualità dei risultati di apprendimento è stata direttamente collegata alla natura dei metodi didattici utilizzati nell'insegnamento. Gli studenti, come affermato da Struthers, MacCormack, & Taylor (2018), sono maggiormente motivati e coinvolti e il loro percorso di apprendimento è più significativo se i loro docenti possiedono competenze didattiche e valutative solide.

Come indicato dalle *Standards and Guidelines for Quality Assurance in the European Higher Education Area dell'European Association for Quality Assurance in Higher Education* (ENQA, ESG, 2015), i docenti sono la risorsa più importante a disposizione degli studenti; il ruolo del docente è essenziale per creare un'esperienza di qualità per gli studenti e consentire l'acquisizione di conoscenze, abilità e competenze. È quindi importante che chi svolge attività di docenza abbia piena conoscenza e comprensione della disciplina che insegna e possieda le competenze e l'esperienza necessari a promuovere l'apprendimento degli studenti.

Per molte università europee la formazione alla didattica dei docenti universitari è diventata un'esigenza irrinunciabile, in quanto la qualità dell'insegnamento è riconosciuta come un fattore cruciale in grado di migliorare gli apprendimenti degli studenti e di favorire la loro inclusione sociale e lavorativa e il loro successo al termine dei percorsi accademici.

La tematica dello sviluppo professionale nella preparazione dei docenti universitari ha avuto origine negli anni '60 del secolo scorso nel contesto statunitense, divenendo un tema importante su cui hanno lavorato le accademie dei paesi anglosassoni e man mano europei e mondiali (Harrison, 2002; Kalman, 2008). Da anni vi sono numerosi documenti dell'Unione Europea (UE) che sottolineano la necessità di incrementare la qualità dell'insegnamento nell'Higher Education attraverso interventi di sostegno e preparazione specifica delle competenze didattiche (High Level Group UE, 2013; EHEA, 2015; 2018).

Il report intitolato *Continuous Development of Teaching Competence* pubblicato dall'EUA (McIntyre-Bhatty & Bunescu, 2019) sollecita le università a introdurre la formazione iniziale e continua dei docenti nelle proprie strategie istituzionali così da considerare lo sviluppo didattico/pedagogico come un processo sistemico con cui tutti i docenti devono confrontarsi.

In Italia il tema dell'innovazione didattica e della professionalità del docente, intesa come capacità di svolgere con competenza ed efficacia la propria attività, ha visto negli ultimi anni una crescente attenzione (Gola & Luciano, 1999; Giovannini, 2010; Giovannini & Rosa, 2012; Felisatti & Serbati, 2017; Perla & Vinci, 2021), anche sollecitata dall'uso di nuovi indicatori stabiliti dall'Agenzia Nazionale di Valutazione del sistema Universitario e della Ricerca (ANVUR) nella valutazione e nell'accreditamento periodico dei corsi e delle istituzioni.

A livello internazionale le strutture dedicate allo sviluppo professionale dei docenti universitari sono i Teaching Learning Centres (TLC), che forniscono supporto e servizi ai referenti accademici e ai docenti per promuovere l'eccellenza dell'insegnamento. Come afferma Sorcinelli (2002), è importante che le attività del TLC siano ben inserite nella struttura accademica, bilanciando bisogni istituzionali a bisogni dei singoli docenti. Tra le attività di gestione di un TLC, infatti, l'autrice suggerisce di realizzare azioni per raccogliere i punti di vista dei vari stakeholders, in particolare dei docenti, destinatari primi del TLC. Al tema dell'analisi dei bisogni è dedicato il prossimo paragrafo.

2. L'analisi dei fabbisogni formativi per la definizione di iniziative di *academic development*

All'interno del processo di formazione, l'analisi dei fabbisogni rappresenta uno degli aspetti più importanti, ma spesso più trascurati nell'ambito della progettazione formativa (Castagna, 2019). Secondo Wisker (2003) oggi, data la complessità del mondo accademico, un'analisi dei fabbisogni condotta come nel passato dai formatori in modo intuitivo prima di progettare programmi di *academic development*, non è più sufficiente, bensì "sono necessarie strategie più strutturate per identificare precisamente aree di miglioramento e di sviluppo del corpo docente" (Felisatti & Clerici, 2020, p. 23).

L'analisi dei fabbisogni si qualifica in primo luogo come una attività di ricerca finalizzata all'acquisizione di dati e informazioni utili e attendibili a proseguire nelle tappe successive del processo formativo, quindi nella progettazione del percorso formativo ovvero nella individuazione degli obiettivi didattici, dei contenuti e dei metodi di insegnamento da adottare, per arrivare fino alla realizzazione di tale esperienza attraverso un corso che sia efficace (Quaglino & Carozzi, 1998). E cosa si intende col termine bisogno o fabbisogno formativo?

Quaglino propone una definizione dei bisogni formativi come "quelle specifiche esigenze connesse alla preparazione professionale dei singoli che avranno per contenuto non solo ciò che gli individui fanno (la loro attività), ma anche ciò che si propongono di fare (i loro piani e progetti) e come (il loro modello culturale), in riferimento al particolare stato della loro relazione con l'organizzazione per ciò che è esprimibile nei termini di una appartenenza a due vie, nonché alla più generale articolazione del loro mondo sociale" (Quaglino, 1998, p. 64). In tal senso i bisogni di formazione non saranno altro che ciò che man mano emerge dall'incontro tra la definizione che ne dà l'organizzazione e quella che ne danno gli individui. Un elemento chiave per la predisposizione di appropriati percorsi formativi nell'istruzione universitaria è quindi quello di rispondere sia ai bisogni dell'organizzazione, in modo coerente con la *vision* accademica,

sia ai bisogni dei singoli individui, evitando di adottare soluzioni standardizzate a bisogni differenti (Naris & Ukpere, 2009; Alessandrini, 2005; Palmieri & Prada, 2005; Harden, 2009).

In questo modo le priorità dell'università potrebbero corrispondere/integrarsi con i bisogni espressi dal personale e l'offerta formativa potrebbe divenire una componente della vita quotidiana del personale ed essere percepita come parte di una cultura e di una strategia condivisa (Wisker, 2003).

Sotto il profilo metodologico, esistono differenti approcci all'implementazione dell'analisi dei fabbisogni formativi (Quaglino, 2005; Alessandrini, 2005; Harden, 2009; Palmieri & Prada, 2005), la quale può essere intesa come un'attività di ricerca che analizza dati ricavati con strumenti e da soggetti differenti, al fine di massimizzare l'affidabilità degli stessi, anche attraverso processi di triangolazione (Richard, Morse & Gatti, 2009; Zannini, 2015). Gli strumenti per tale analisi possono essere più o meno strutturati: i più diffusi sono il questionario (Felisatti & Clerici, 2020) e le interviste, ma anche focus group e discussioni informali sono validi alleati all'esplorazione di bisogni formativi espliciti, impliciti e latenti (Zammuner, 2003; Trincherò, 2004; Kern, Thomas & Hughes, 2009; Zannini, 2015). Neal e Peed-Neal (2010) elencano inoltre altri metodi e strumenti per l'analisi dei fabbisogni formativi quali le valutazioni finali dei workshop, in cui i partecipanti possono esprimere le loro preferenze.

Nella presente ricerca si è scelto di applicare l'intervista semi-strutturata (Trincherò, 2002, p. 220) in cui la ricercatrice fissa tema e domande da porre, adattabili alla situazione dell'intervistato. L'obiettivo è quello di accedere alla prospettiva del soggetto studiato (Corbetta, 1999). Il presente lavoro si colloca nell'ambito delle azioni promosse dall'Università di Trento, e in particolare dal FormID, il Teaching and Learning Center (TLC) che da alcuni anni promuove azioni di sviluppo professionale per favorire un insegnamento di qualità e un apprendimento per gli studenti significativo, partecipativo e personalizzato. Al fine di costruire processi e percorsi opportunamente tarati sul contesto, è stata condotta una indagine finalizzata all'analisi dei bisogni espressi dai soggetti che in esso vi operano. La traccia di intervista è stata sottomessa ed approvata dal Comitato Etico di Ateneo (protocollo n. 2022-046). Tali azioni rappresentano un prerequisito per aumentare le probabilità di realizzare interventi formativi efficaci, definendo degli obiettivi che rispondano a esigenze reali e specifiche.

3. Obiettivi e metodologia della ricerca

Questa attività di ricerca rientra in una ampia azione che ha visti coinvolti, in fasi diverse, i Delegati alla Didattica dei singoli Dipartimenti/Centri, i membri del Comitato Tecnico Scientifico del FormID (Serbati et al., 2023a) e, successivamente, i docenti dell'Ateneo. L'intera ricerca ha infatti integrato un approccio top-down, coinvolgendo le figure istituzionali deputate alla didattica, con un approccio bottom-up, coinvolgendo tutti i docenti attraverso la somministrazione di un questionario. In questo contributo ci si soffermerà sui risultati emersi dai dati raccolti nella fase investigativa rivolta ai Delegati alla Didattica.

Obiettivo della ricerca qui presentata è stato quello di esplorare le strategie di gestione e promozione della didattica e i fabbisogni dei docenti per promuovere una didattica di qualità.

Le domande di ricerca a cui il presente lavoro mira a rispondere sono quindi:

- quali sono le idee di qualità della didattica e quali le conseguenti strategie e tecnologie didattiche promosse nei Dipartimenti/Centri di UniTrento?
- quali sono gli elementi critici emergenti?
- quali fabbisogni formativi emergono per sostenere un miglioramento continuo della didattica?

Per poter raccogliere le specifiche esigenze dei diversi Dipartimenti e Centri, la ricercatrice si è rivolta alle figure con incarichi ufficiali in tema di didattica, ovvero ai Delegati alla Didattica, a cui si affiancano, in alcuni dipartimenti, anche i Delegati all'Innovazione Didattica. La ricerca ha rappresentato anche un'occasione per coinvolgere i Delegati in una riflessione sul proprio contesto di lavoro e sul proprio ruolo come Delegati, ritenendo la fase di raccolta dei dati un primo, utile, momento di apprendimento, sia per la ricercatrice sia per i suoi interlocutori rispetto alle traiettorie di azione del TLC e di promozione dello sviluppo della didattica.

L'indagine esplorativa oggetto del presente lavoro è stata realizzata nel periodo di aprile-maggio 2022.

La raccolta dati è avvenuta attraverso un'intervista semi-strutturata svolta online sempre dalla medesima ricercatrice, usando la piattaforma Zoom, con 15 Delegati per una durata media di 60 minuti ciascuno. Le interviste sono state registrate. Di seguito si riporta l'elenco dei dipartimenti e centri a cui afferiscono i Delegati intervistati.

Dipartimento o centro di ateneo UniTn	Ruolo ricoperto
Centro Agricoltura, Alimenti, Ambiente	Delegato per la didattica
Scuola Studi Internazionali	Delegato per la didattica
Lettere e Filosofia	Delegata per la didattica
Facoltà di Giurisprudenza	Delegata per l'innovazione didattica
Psicologia e Scienze Cognitive	Delegata per la didattica
Ingegneria Civile Meccanica e Ambientale	Delegato per la didattica
Ingegneria Industriale	Delegato per la didattica
Sociologia e Ricerca Sociale	Delegata per la didattica
Fisica	Delegato per la didattica
Centro Interdipartimentale di Scienze Mediche	Delegata per la didattica
Biologia Cellulare, Computazionale e Integrata	Delegato per la didattica
Matematica	Delegato per la didattica
Economia e Management	Delegata per la didattica
Economia e Management	Delegata per l'innovazione didattica
Centro Interdipartimentale Mente/Cervello	Delegato per la didattica

Tabella 1: Elenco dipartimenti e centri a cui afferiscono i Delegati intervistati

La scelta di tale metodo qualitativo è stata fatta per offrire alle persone uno spazio di pensabilità, in cui procedere ad esplicitare il pensiero tacito e compiere riflessioni critiche sui temi oggetto dell'indagine (Fabri, 2007). L'intervista favorisce infatti un processo generativo, in quanto viene offerto uno spazio sicuro in cui l'intervistato può serenamente riflettere su temi proposti, su cui di solito non ha il tempo di pensare o l'occasione di confrontarsi. Per favorire lo svolgimento dell'intervista è stata anticipata la traccia di domande via mail a ogni Delegato, inoltre nella fase iniziale dell'intervista si è descritto lo scopo della ricerca per favorire una narrazione serena da parte dell'intervistato. Man mano la ricercatrice ha cercato di favorire l'analisi dei temi con domande-sonda e richieste di approfondimento (Corbetta, 1999, p.424). Questa attività ha consentito di recuperare la visione della didattica del proprio dipartimento e le linee di sviluppo professionale dei docenti.

Le aree esplorate attraverso le interviste sono state le seguenti: qualità didattica, metodologie didattiche, risorse digitali, valutazione, difficoltà nella didattica, esigenze formative dei docenti. È stata quindi elaborata una bozza di intervista, di seguito riportata (Tab. 2). La bozza è stata validata attraverso la somministrazione delle prime due interviste al fine di individuare la presenza di domande poco chiare o da aggiungere.

L'analisi testuale è stata realizzata avvalendosi del supporto del software Atlas.ti 22 (Mazzara, 2002). In tale fase la ricercatrice ha come obiettivo di raggiungere la comprensione dei significati costruiti dai soggetti, assicurando l'accuratezza durante le fasi di analisi. L'uso del software permette un processo ciclico e reiterato di analisi, confronto e interpretazione, consentendo un approccio ai dati testuali sistematico e contemporaneamente "creativo" (Mazzara, 2002).

Tutte le 15 interviste sono state svolte dalla stessa ricercatrice, audio registrate (previa autorizzazione dell'intervistato) e trascritte integralmente su supporto informatico.

<p><i>Traccia di intervista</i></p> <p><i>-Qualità della didattica e innovazione didattica</i> Cosa costituisce secondo lei la qualità della didattica? Cosa intende per 'innovazione' nella didattica?</p> <p><i>-Metodologie didattiche</i> Quali sono secondo lei le strategie didattiche prevalenti utilizzate dai docenti nel suo dipartimento? Strategie sia di insegnamento, di apprendimento che favoriscono il coinvolgimento degli studenti</p> <p><i>-Risorse digitali</i> Quali risorse digitali sono utilizzate dai docenti del suo dipartimento per la progettazione e l'erogazione dei corsi? Quali sono state le soluzioni digitali finora trovate che hanno favorito un maggior coinvolgimento degli studenti?</p> <p><i>-Valutazione</i> Secondo lei quali sono le modalità di valutazione dei risultati di apprendimento più utilizzate dai docenti del suo dipartimento?</p> <p><i>-Problemi/difficoltà</i> Quali sono le difficoltà, i problemi più frequenti che riscontra nello svolgimento delle attività didattiche all'interno del suo dipartimento? Su cosa vorrebbe intervenire?</p> <p><i>-Esigenze formative</i> A suo avviso quali potrebbero essere le tematiche da approfondire per rafforzare le competenze didattiche dei docenti del suo dipartimento? Quali sono secondo lei le modalità formative più efficaci per la formazione e l'aggiornamento dei docenti del suo dipartimento?</p> <p><i>-Elementi aggiuntivi</i> Quali altri elementi segnalerebbe come importanti per garantire la qualità della didattica</p>
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Tabella 2: Traccia di intervista

I principali step del lavoro di analisi comprendono la creazione dell'unità ermeneutica (HU), contenente tutte le risposte dei 15 Delegati (8 M, 7 F), a cui segue la selezione di quelle parti di testo (le *quotations*) che si consideravano rilevanti ai fini della ricerca e alle quali viene attribuito un codice che ne riassume il significato. Tale processo di codifica dei dati ha dato luogo alla creazione di 425 codici. La coerenza interna può essere controllata grazie alla possibilità di confrontare in ogni momento tra loro le diverse citazioni associate a uno stesso codice (Milesi & Catellani, 2002). L'analisi del contenuto è stata svolta con approccio misto deduttivo-induttivo da due ricercatrici, utilizzando categorie presenti in letteratura e identificate con le domande dell'intervista, ma lasciando al contempo emergere i significati dai testi; le categorie emergenti sono state raggruppate per pertinenza semantica in dimensioni di analisi. Una volta effettuata la codifica, è stato possibile svolgere operazioni di confronto e recupero di citazioni e successivamente costruire le dimensioni di indagine (che si configurano come contenitori di oggetti che permettono di classificare i codici in macro-categorie di significato). Entrambe le ricercatrici hanno letto i testi delle interviste; la ricercatrice che ha svolto le interviste ha proceduto all'analisi e codifica, creando una definizione operativa dei codici, che poi sono stati condivisi, rivisti e discussi con la seconda ricercatrice, per scegliere una codifica che desse il maggior livello informativo.

4. Analisi dei dati

La lettura complessiva delle categorie individuate restituisce un quadro ricco di elementi in grado di raffigurare la rappresentazione contestuale offerta dai Delegati, in cui opera il TCL FormID e così orientare le scelte formative.

Di seguito verranno descritti i dati, specificando quanto emerso in ogni dimensione. Nel contributo vengono presentati graficamente i dati raccolti, riportando le categorie emerse e i codici, seguiti da alcuni esempi di *quotations*. Nonostante il numero esiguo di interviste, si è scelto di indicare a fianco dei codici anche la percentuale di risposta, per sottolineare il peso attribuito dagli intervistati ai vari aspetti.

L'analisi ha dato luogo alla creazione delle seguenti dimensioni:

- il macro tema 'didattica', che al suo interno si compone di sottodimensioni quali: qualità della didattica, strategie didattiche, valutazione dell'apprendimento, utilizzo delle tecnologie;
- criticità nella didattica;
- 'fabbricazioni formative' dei docenti.

In relazione alla prima domanda di ricerca, nella Fig. 1 si presenta una mappa che disaggrega le categorie della dimensione ‘Qualità della didattica’ nei codici correlati, riportando tra parentesi la frequenza per ogni codice.

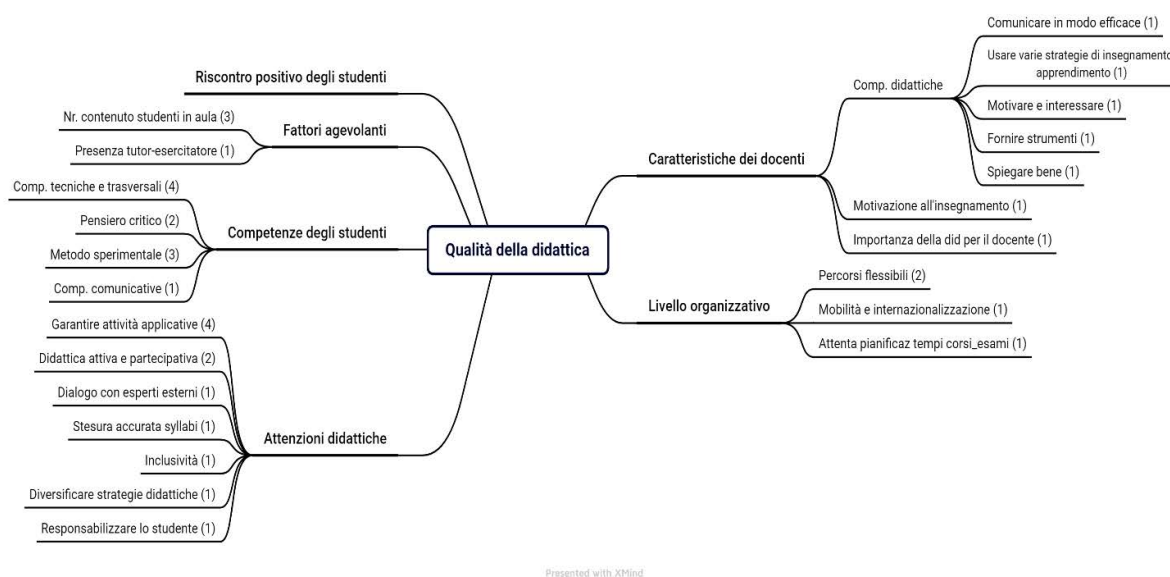


Figura 1: Mappa dei codici e delle categorie che compongono la dimensione ‘Qualità della didattica’

La ‘qualità della didattica’ è considerata dai Delegati sotto vari punti di vista. Nella categoria ‘competenza degli studenti’ (il 67% dei rispondenti) essa è considerata come un risultato in termini di acquisizione di competenze, e non solo conoscenze, da parte degli studenti. Si intendono sia competenze tecniche che di tipo trasversale, in particolare: sviluppare il pensiero critico, utilizzare un linguaggio specifico e saper applicare il metodo scientifico. Per esempio uno dei Delegati ha affermato che:

«La didattica di qualità deve favorire la capacità critica, di non accettare nulla, neppure quello che viene presentato a lezione; cioè devono essere in grado di controbattere, di porre delle questioni rispetto a quello che viene presentato. Allo stesso modo devono anche essere in grado di sostenere una posizione o un’opinione, di difenderla e devono essere anche in grado di abbandonarla se ad un certo punto questa opinione non è supportata» (5:36).

Altri intendono qualità della didattica nel fattore forse più rilevante, cioè le caratteristiche della docenza (47% dei rispondenti), intese come essere in grado di motivare ed interessare i propri studenti, promuovendo i contenuti, stimolando la loro curiosità, comunicando efficacemente. Un Delegato afferma:

«Nel nostro corso di laurea non so se abbiamo mai discusso effettivamente di cosa si intenda per qualità. Diciamo che da una parte sia sicuramente riuscire a motivare e interessare gli studenti e poi trasmettere quelli che ritieni essere i contenuti essenziali» (12:1).

Vi sono alcune ‘attenzioni didattiche’ (73% dei rispondenti) che il docente deve avere che favoriscono la qualità; per i Delegati, soprattutto di area scientifica, qualità della didattica è garantire “metodi didattici” di tipo applicativo, in primis il laboratorio, come anche il tirocinio, come riportato di seguito:

«Secondo me una didattica di qualità da noi non può prescindere con una serie di attività pratico applicative» (6:1).

I Delegati identificano un fattore di base che influenza la qualità della didattica e cioè il numero di studenti in aula (20%); più aumenta il numero e meno è garantita l’interazione tra docente e studente. Un

elemento che può supportare il docente in tal caso è la presenza di tutor che lo affianchino nello svolgimento delle attività didattiche.

Altri elementi che esprimono la qualità di un corso di studi vengono collocati a “livello organizzativo” (27%): la flessibilità nella costruzione del piano di studio, la possibilità di mobilità e internazionalizzazione, una accurata pianificazione dei tempi dei corsi e degli esami che eviti sovrapposizioni e frenesia.

All'interno dei dipartimenti raramente si discute di didattica, si scambiano buone pratiche e ancor meno si svolgono indagini sulle strategie utilizzate dai docenti in aula. Di conseguenza, la conoscenza che hanno i Delegati sul tema appare spesso limitata e quest'indagine ha rappresentato un'occasione per i Delegati per raccogliere alcune informazioni.

Approfondendo ulteriormente il tema della 'didattica', nella figura 2 si rappresentano quali sono le 'strategie didattiche' che, secondo i Delegati, vengono utilizzate con più frequenza dai colleghi nel loro Dipartimento o Centro. Per raggrupparle abbiamo utilizzato le architetture dell'istruzione facendo riferimento al testo di Bonaiuti (2014).

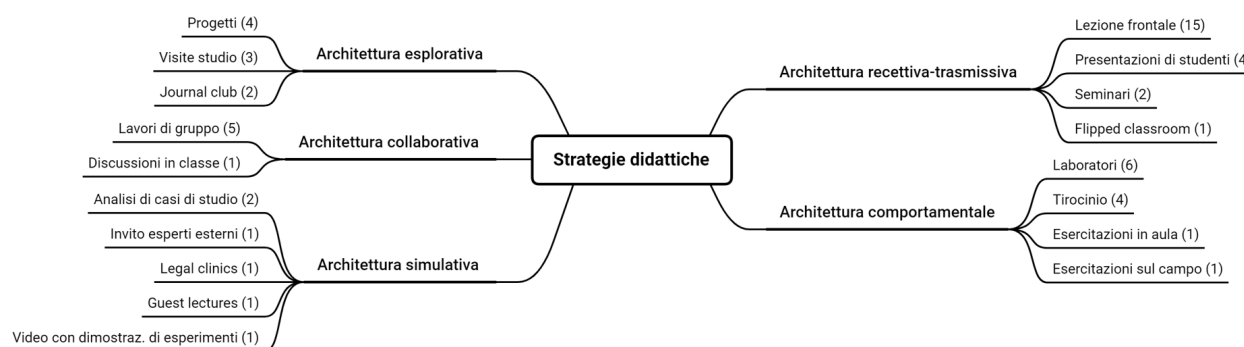


Figura 2: Mappa codici e categorie che compongono la dimensione 'Strategie didattiche'

In primo luogo va precisato che quasi tutti i Delegati hanno evidenziato una differenziazione nei metodi didattici adottati nei CdL triennali rispetto ai magistrali. Nel primo biennio della triennale sembra che la strategia più utilizzata sia la modalità recettiva con la lezione frontale, in quanto l'obiettivo dei docenti è che gli studenti acquisiscano le conoscenze di base della disciplina. Solo quando queste sono state acquisite, sembra possibile adottare strategie più partecipative ed attive, in cui far lavorare gli studenti su problemi simili a quelli del mondo reale, consentendo loro di agire attivamente e diventare realmente parte del processo di insegnamento e apprendimento attraverso un approccio *student centered*. La categoria 'architettura recettiva-trasmissiva' è caratterizzata dall'erogazione di contenuti senza particolari momenti di interazione con chi ascolta; dalle risposte emerge che le strategie più utilizzate oltre alla lezione frontale che vale per tutti, sono: le presentazioni svolte dagli studenti (indicata dal 27% dei docenti) e i seminari (13% docenti); vi è inoltre un riferimento alla metodologia della flipped classroom. Nell'architettura comportamentale, in cui il docente presenta i contenuti gradualmente sostenendo continuamente l'apprendimento in una continua interazione tra docente-studente, risulta che i laboratori sono la strategia più diffusa in area scientifica (riportato dal 40% dei rispondenti), seguiti poi dai tirocini (27%) e un singolo caso di esercitazioni in aula e sul campo. Nell'architettura simulativa, caratterizzata da quelle esperienze che portano a riprodurre, in una situazione protetta, problemi ed eventi simili a quelli del mondo reale, viene applicata l'analisi di casi studio (13%). Nell'architettura collaborativa, in cui l'apprendimento è conseguenza dell'azione in un contesto e del dialogo sociale in una forte interazione tra pari, vengono utilizzati soprattutto i lavori di gruppo (33%) e la discussione in classe (7%). Alla fine nell'ambito dell'architettura di tipo esplorativo, caratterizzata dalla gestione autonoma dell'apprendimento come scoperta libera conseguente a lavori di indagine riflessiva, i docenti fanno svolgere soprattutto progetti (27%) e le visite di studio (20%).

Risultano assenti le strategie dell'architettura metacognitiva-autoregolativa in cui si svolgono attività per sviluppare la consapevolezza circa le modalità di apprendimento degli studenti, per potenziare quindi le competenze nel regolare autonomamente i propri processi attentivi, di studio e di apprendimento. I Delegati sottolineano anche in questo ambito l'importanza del ruolo del tutoraggio (27%).

Tra le dimensioni di analisi si è indagato anche l'uso delle ICT. Gli intervistati affermano che, quando è partita l'emergenza nel 2020, tutti i docenti sono stati costretti ad impossessarsi rapidamente dei mezzi digitali utili a garantire le videolezioni, differenziando però i livelli di interazione con gli studenti, in base alle competenze digitali possedute. Certamente tutti hanno iniziato ad usufruire di più delle risorse della piattaforma Moodle, il cui utilizzo ora viene definito diffuso dal 40% dei Delegati, anche se rimangono livelli molto diversi di padronanza tra i docenti (40%). Per i più Moodle mantiene il ruolo di repository dei materiali per gli studenti (33%), senza quindi sfruttarlo come ambiente di apprendimento collaborativo. Tra gli strumenti utilizzati sono stati indicati i seguenti: per tutti valgono gli strumenti di videoconferenza (Zoom, Meet, ecc.), a cui si aggiungono software specifici in ambito linguistico e di ingegneria (20%), piattaforme di coworking per gli studenti (13%) e sistemi *student engagement* (Wooclap, Menti-meter) (13%).

Ultimo tema di analisi riguardante la 'didattica' è quello della 'valutazione degli apprendimenti', che viene applicata in prevalenza come valutazione al termine dell'insegnamento, con funzione quindi sommativa e certificativa, sia mediante esami scritti (33%) che con esami orali (13%), ma soprattutto integrando le due modalità (60%) ed inserendo la valutazione dei prodotti elaborati dagli studenti (67%).

In relazione alla seconda domanda di ricerca, che ha indagato le criticità riscontrate dai Delegati nell'ambito della didattica, nella figura 3 è possibile vedere come ciò riguardi quattro aspetti. La questione più sentita è il fatto che l'impegno nella didattica non venga valutato all'interno del sistema universitario per la progressione di carriera; questo fa sì che molti docenti si dedichino prioritariamente alla ricerca e solo marginalmente alla didattica.

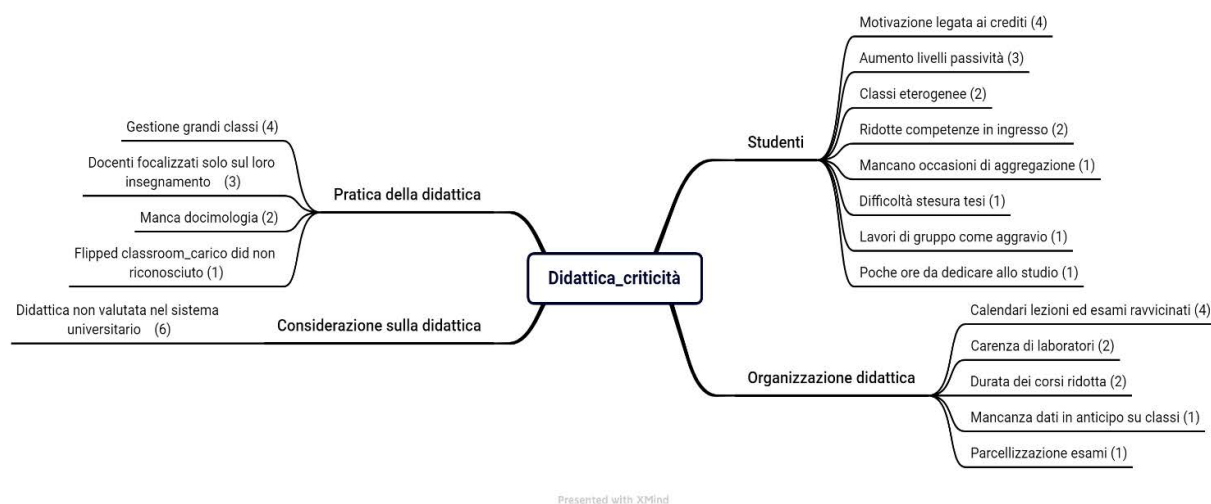


Figura3: Mappa codici e categorie che compongono la dimensione 'didattica_criticità'

Altre difficoltà evidenziate riguardano gli studenti che spesso hanno una motivazione allo studio legata al superamento dell'esame e quindi al raggiungimento dei crediti piuttosto che all'apprendimento (27%), come afferma un docente:

«Qui lo studente è un po' utilitarista. Questo secondo me gli viene impresso dal concetto di credito, per cui per loro è un'acquisizione di crediti e non più una acquisizione di abilità e conoscenze» (10:24).

Aumentano i livelli di passività riscontrati nella partecipazione degli stessi alle lezioni, soprattutto dopo i periodi di lockdown (20%), come afferma una delegata:

«l'anno scorso avevo studenti attivi anche se in Zoom. Quest'anno ho trovato un mondo diverso. Non ho mai avuto problemi con gli studenti; sono una persona comunicativa e mi piace il coinvolgimento, li ho coinvolti in tutto. Io quest'anno ho trovato degli studenti totalmente passivi» (13:31).

Le classi sono eterogenee con background diversi tra studenti in termini di provenienza culturale, linguistica e formativa (13%); all'ingresso in università si riscontrano ridotte competenze (13%). Altri elementi che vengono sottolineati come critici sono la mancanza di occasioni di aggregazioni per gli studenti (7%), il fatto che alcuni studenti diano un voto di gradimento basso agli insegnamenti in cui si chiede il lavoro di gruppo, percepito come un aggravio (7%); si nota inoltre la difficoltà nella stesura delle tesi (7%).

Nell'area dell'organizzazione didattica si fanno presente fattori critici quali: la pianificazione temporale di corsi ed esami ravvicinati che crea sovraccarico e frenesia di impegni (27%), tanto da far dire agli studenti di 'provare' gli esami:

«Gli studenti utilizzano la parola 'provare' quando devono accedere a un esame. ... questo linguaggio deriva dal fatto che hanno degli appelli molto ravvicinati, non riescono, quindi li provano. Se il problema è il calendario degli appelli stiamo lavorando appunto col dipartimento per rivedere questo calendario, ... cioè lo studente deve pianificare degli esami e sostenerli, non provarli, quando è preparato» (1:56)

Viene inoltre indicata la carenza di strutture laboratoriali (13%), una frammentazione dei corsi e quindi durata troppo breve dei singoli insegnamenti rispetto ai contenuti da trattare (13%) che poi diventa una parcellizzazione di esami; ed infine la mancanza di dati sugli studenti in entrata, che invece sarebbe utile avere in anticipo così da adeguare la programmazione didattica (7%).

In aula le criticità riguardano:

- la gestione della didattica in classi con un numero elevato di studenti (27%);
- il coordinamento dei contenuti tra docenti in quanto questi sono concentrati solo sul proprio insegnamento e non hanno una visione di insieme del CdS (20%);
- la mancanza di formazione dei docenti su metodi e strumenti di valutazione quindi l'area della docimologia (13%).

La didattica come tema di riflessione e formazione trova poco spazio negli incontri formali nei dipartimenti. Durante i periodi di didattica online obbligatoria, quelle che erano le occasioni di confronto si sono focalizzate sulla gestione delle emergenze. Ora i Delegati sembra desiderino tornare a parlare della qualità della didattica, esplicitando l'esigenza di individuare gruppi di lavoro e momenti in cui potersi dedicare. Le occasioni di incontro informali potrebbero essere una buona opportunità di scambio delle esperienze didattiche, ma a livello logistico in vari dipartimenti mancano delle sale ristoro, a volte anche sale riunioni, in cui i docenti possano incontrarsi e condividere le esperienze didattiche, le difficoltà e i nuovi progetti, come auspicato da alcuni/e Delegati/e (47%).

Come ultimo aspetto, si discute ora quanto emerso in merito ai fabbisogni formativi dei docenti individuati dai Delegati alla Didattica, in risposta alla terza domanda di ricerca (Fig. 4).

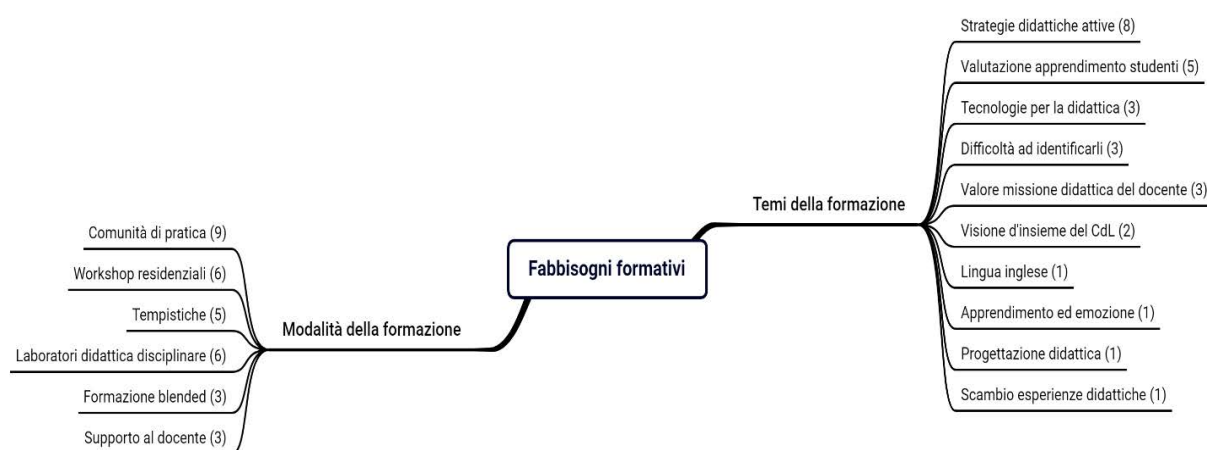


Figura 4: Mappa codici e categorie che compongono la dimensione 'fabbisogni formativi'

Rispetto all'individuazione dei fabbisogni formativi dei docenti del proprio dipartimento/centro, i temi emersi come prioritari da trattare nella formazione riguardano principalmente le strategie didattiche attive (53%), la valutazione dell'apprendimento (33%), l'uso delle tecnologie per l'educazione, ma è stata sottolineata l'esigenza di approfondire anche il valore che assume la didattica nella loro missione di docenti, come afferma una delegata:

«Ecco forse continuare con il lavoro di sensibilizzazione sull'importanza delle strategie didattiche e sulla nostra missione come docenti. Perché a volte, forse anche nel passato, non da tutti veniva riconosciuta come una missione, una parte importante. Come se fosse sufficiente supportare l'apprendimento del programma ed il resto fosse un di più. Invece riconoscere il valore della nostra missione didattica... Automaticamente quando ne riconosci il valore hai tutta la motivazione a cercare di innovarla e aumentare la qualità» (14:27).

Altri temi su cui fare formazione sono: la visione d'insieme del CdS (13%), intesa come un'analisi dei singoli insegnamenti che compongono il CdS che consenta di verificare se tutte le competenze in esito al profilo in uscita vengono sviluppate dagli insegnamenti programmati; i processi di apprendimento e il ruolo delle emozioni nell'apprendimento (7%), la progettazione didattica (7%) e il desiderio di uno scambio di esperienze didattiche tra docenti (7%).

Tutti i Delegati riconoscono inoltre la difficoltà dei docenti a partecipare alle possibilità di formazione proposte loro, considerando come causa principale il carico di lavoro e la sovrapposizione di impegni istituzionali. Rispetto alle 'modalità di fare formazione' ritenute più interessanti per i Delegati, vi sono al primo posto eventi informali quali le comunità di pratica (60%), seguite dai workshop residenziali (40%) come quello già proposto ai neoassunti e la formazione sulla didattica disciplinare attraverso una modalità laboratoriale (40%). Per dare flessibilità sembra utile anche una formazione *blended*, in cui proporre la parte teorica online e quella pratica in presenza. Altri richiedono un supporto al docente (20%) che si concretizza nella consulenza di esperti sulla didattica a livello individuale o di gruppo, avendo come focus l'introduzione di strategie di *active learning*.

5. Discussione, conclusioni e prospettive future

I dati raccolti hanno offerto importanti spunti di riflessione sullo svolgimento della didattica nell'Ateneo trentino, evidenziando metodi, pratiche, criticità e risorse presenti, facendo emergere così alcune esigenze a cui la formazione può dare risposta.

Nel contesto nazionale, esistono progetti e azioni di ricerca che hanno fatto dell'analisi dei fabbisogni formativi un'azione chiave per sostenere lo sviluppo di processi mirati di sviluppo professionale a sostegno delle competenze dei docenti e quindi quale guida per la strutturazione di programmi mirati all'interno dei Teaching and Learning Centres (Perla & Vinci, 2018; Mura & Zurru, 2019).

Per 'insegnamento efficace e di qualità' si intende un insegnamento che è orientato e focalizzato sugli studenti e sul loro apprendimento (Bain, 2004). Ancora oggi si può affermare, citando Luzzatto e Stella (2010, p. 27) come "il porre al centro del progetto formativo non l'insegnamento del professore bensì l'apprendimento dello studente – opzione centrale nel processo di Bologna – rappresenta infatti una rivoluzione copernicana". Tale conoscenza è già presente nei Delegati e va rafforzata attraverso azioni mirate che costruiscano una cultura locale della qualità della didattica.

Vi è consapevolezza che innovare è utilizzare anche strategie didattiche che vadano al di là della lezione frontale, anche se è necessario sviluppare più casi applicativi.

Come risulta dalle risposte sui fabbisogni formativi, i temi prioritari che i Delegati vorrebbero trattare riguardano infatti le strategie didattiche insieme ai metodi di valutazione dell'apprendimento. Serve quindi arricchire tale visione di qualità e innovazione, considerando un'azione didattica 'complessivamente innovata', cioè a livello sia di approcci, di ambienti di apprendimento, di metodi e di contenuti (Felisatti & Serbati, 2019).

All'interno degli aspetti critici inerenti la didattica, è stato evidenziato un fattore prioritario, cruciale per convogliare la disponibilità dei docenti verso un maggior investimento nelle azioni didattiche: il fatto

che l'università valuta in modo esiguo, ai fini della carriera dei docenti, l'impegno e i risultati profusi nella didattica, rispetto ai prodotti della ricerca. L'azione di insegnamento si colloca ad un livello secondario rispetto all'attività di ricerca e non trova in termini di riconoscimento effettivo un peso equivalente all'investimento che viene richiesto al docente (Quinlan, 2002), cosa auspicata per il futuro (ANVUR, Quarc_docente, 2017).

In termini di prospettive di ricerca, alla luce dei risultati emersi dall'analisi dei dati, il FormID ha proposto un questionario, rivolto a tutti i docenti dell'Ateneo, al fine di mappare le pratiche didattiche e valutative, anche potenziate dall'uso della tecnologia e per sondare i bisogni formativi, utili a guidare la progettazione dell'offerta formativa del TLC stesso, integrando i dati esplorativi emersi dalle interviste.

Inoltre, al fine di potenziare il contributo che la figura del Delegato fornisce all'interno del contesto istituzionale, quale spunto e guida per il miglioramento ed il sostegno ad una didattica di qualità, come gruppo di ricerca del FormID ipotizziamo di fare dei focus group periodici per monitorare le azioni di sviluppo professionale e la loro rispondenza con i bisogni emergenti (Zammuner, 2003).

Si ritiene sia stato quindi importante combinare un approccio top down e bottom up (Felisatti & Clerici, 2020) che considerasse sia i bisogni dell'organizzazione universitaria che i bisogni dei singoli (in questo caso i dipartimenti). Questo approccio, insieme ad uno sguardo alle pratiche internazionali, permette di adottare soluzioni situate, che rispondano alle specifiche esigenze del contesto (Naris & Ukpere, 2009). L'analisi dei fabbisogni si rivela un intervento particolarmente utile per poter programmare dei percorsi formativi efficaci.

Un limite delle interviste ai Delegati è dato dal fatto che tale figura nella maggioranza dei casi incontrati non presidia in modo completo lo svolgimento della didattica in termini di una raccolta delle strategie applicate dai docenti e/o una analisi dei fabbisogni formativi dei colleghi. D'altro canto, l'intervista rappresenta una modalità per coinvolgere in modo attivo i referenti dei dipartimenti, essendo anche uno strumento che promuove consapevolezza e riflessione e può offrire spunti per intervenire in modo trasformativo e migliorativo sulle pratiche organizzativo-didattiche.

I Delegati alla didattica possono svolgere un ruolo strategico, in collaborazione con il TLC, per promuovere lo sviluppo professionale dei docenti del loro dipartimento. Grazie alla conoscenza delle culture educative e delle strutture istituzionali, essi possono da un lato farsi portavoce presso il TLC delle specifiche esigenze e dall'altro stimolare la partecipazione alle iniziative formative promosse dal TLC (Bolander Laksov, 2021).

tra le ricadute educative della presente ricerca, sottolineiamo che è stata attivata una formazione alla leadership rivolta proprio alle figure dei Delegati, che li accompagni nella gestione del proprio ruolo istituzionale.

Questa ricerca costituisce pertanto un'iniziativa in cui la ricerca educativa supporta e informa le pratiche di faculty development e promuove un approccio scientifico, con l'obiettivo di valorizzare l'insegnamento di qualità e di individuare strategie adeguate e personalizzate per migliorare l'apprendimento degli studenti.

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Cooperative learning in virtual worlds: An innovative teaching and learning experience for STEAM education

Apprendimento cooperativo in mondi virtuali: un'esperienza innovativa di insegnamento e apprendimento per la didattica delle STEAM

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Abstract

This paper describes a cooperative learning experience conducted within virtual worlds, an innovative approach of the teaching-learning process in the metaverse, achieved thanks to the synergistic action of the University and the School.

It is part of a broader research path aimed at innovating the teaching of the STEAM disciplines (Science, Technology, Engineering, Arts and Mathematics) and it is the result of a project proposals born within a training itinerary specialist developed within the Italian national network "Innova a 360° (AR, VR, AI)".

The exploratory research, based on a case study, aims to actively evaluate the possibility of learning cooperatively within virtual environments, making the delicate teaching-learning process possible in this context, enhancing immersive teaching experiences, of co-construction of knowledge, with a view to enhancing talents through the improvement of technological, digital, multimedia skills and promoting the inclusion process.

This contribution offers food for thought on the advantages of using virtual reality, augmented reality and artificial intelligence in the teaching of STEAM disciplines and towards pupils with disabilities and special educational needs. It also identifies possible effects on teaching practice and projects itself as an innovative methodology aimed at training citizens capable of dealing with the delicate process of social, historical and cultural changes with specific skills.

Keywords: Metaverse, Virtual Worlds, Steam Teaching, Inclusion, Teaching And Learning Innovation.

Riassunto

Questo articolo descrive un'esperienza di apprendimento cooperativo condotta all'interno di mondi virtuali, un approccio innovativo del processo di insegnamento-apprendimento nel metaverso. L'esperienza, che rientra all'interno di un più ampio percorso di ricerca finalizzato all'innovazione della didattica delle discipline STEAM (Science, Technology, Engineering, Arts and Mathematics), realizzata grazie all'azione sinergica di Università e Scuola, è stata una delle proposte progettuali nate in seno ad un itinerario formativo specialistico sviluppatosi all'interno della rete nazionale italiana "Innova a 360° (AR, VR, AI)".

La ricerca esplorativa, basata su un caso studio, si pone come obiettivo quello di valutare fattivamente la possibilità di apprendere in modo cooperativo all'interno di ambienti virtuali, rendendo possibile in questo contesto il delicato processo di insegnamento-apprendimento, valorizzando esperienze di didattica immersiva, di co-costruzione del sapere, nell'ottica della valorizzazione dei talenti attraverso il potenziamento di competenze tecnologiche, digitali, multimediali e favorendo il processo di inclusione.

Questo contributo offre spunti di riflessioni sui vantaggi dell'utilizzo della realtà virtuale, la realtà aumentata e l'intelligenza artificiale nella didattica delle discipline STEAM e nei confronti di alunni con disabilità e bisogni educativi speciali. Individua, inoltre, possibili ricadute nella pratica didattica e si proietta come metodologia innovativa finalizzata alla formazione di cittadini in grado di fronteggiare con specifiche competenze il delicato processo di cambiamento sociale, storico e culturale che interessa il nostro secolo.

Parole chiave: Metaverso, Mondi Virtuali, Didattica delle Steam, Inclusione, Innovazione dell'Insegnamento e dell'Apprendimento.

1. Introduction

The continuous evolution of environmental and social needs that characterize the 21st century highlight the urgency to improve education in science, technology, engineering and mathematics (STEM). The school, in the immediate present, has the delicate task of remodulating the teaching methods of the STEM disciplines by researching and structuring innovative approaches capable of perfecting the students' scientific skills in order to reduce the global factors that characterize today's society.

Such complex challenges require a didactic intervention able to favor the process of integration between science, technology, engineering and mathematics in authentic contexts; thus, innovative didactic approaches can be the turning point to excite and fascinate students and teachers in transversal concepts and applications of the real world (Kelley and Knowles, 2016).

The new teaching approaches must, therefore, be based on experience to offer students concrete opportunities for growth in the skills that characterize our century: critical thinking, creativity, collaboration, interpersonal and communication skills (Buck Institute, 2018). Among these, in particular, creativity constitutes an important way to increase engagement and understanding in these scientific fields, implementing the cross-curricular knowledge system and broadening critical perspectives (Marone and Buccini, 2023). In this perspective, the science-art-creativity triangulation, on the basis of the STEAM teaching (Science, Technology, Engineering, Arts and Mathematics), is an ideal mix that, transformed into pedagogical approaches, allows scientific embodied experience within a physical and digital space (Varela et al., 1992).

It is important to underline how thinking and re-thinking the planning of educational interventions must also take place in the perspective of inclusion because the historical, social and cultural changes of recent years have had a strong impact on students with disabilities and with Special Educational Needs (Italian acronym, BES). In recent years, as a consequence of the pandemic period, a strong interest in new technologies to support teaching has been observed in this sense (Rossi et al., 2023). In particular, the adoption of technology to structure immersive learning settings could act as a tool for enhancing the skills and abilities acquired and also constitutes a valuable resource for enhancing the more critical ones. This leads us to think that an immersive reality system, if placed at the service of teaching, can represent an opportunity to learn, experiment and develop one's potential in a situated learning environment (Finestrone et al., 2023).

On the basis of these reflections, this article presents a didactic experience of cooperative learning in virtual worlds of Science topics. This experience is part of the planning activity envisaged by the national school network, "Innova a 360° (VR, AR, IR)", created to promote innovative teaching methods in the STEAM field.

This article therefore intends to reflect on the possible didactic interventions linked to the development of an innovative methodology through the analysis of a case study.

2. The Italian network "Innova a 360° (AR, VR, AI)": an innovation project in STEAM education

The Ministry of Education and Merit, through the funds of the National Recovery and Resilience Plan (Italian acronym, PNRR), has allowed the creation of a network of 32 Italian schools, called "Innova a 360° (AR, VR, AI)", an experimental project aimed at creating educational paths through the use of technological tools for augmented reality, virtual reality and artificial intelligence.

The project carried out by the network also had the task of promoting the adoption of innovative teaching methodologies by schools, with particular reference to digital teaching and the STEAM disciplines, inspired to the student centrality, to active and cooperative learning, to relational well-being, in line with the «Skills and Contents» area of the National Digital School Plan (Italian acronym, PNSD).

In particular, the project has fully fulfilled the objectives of action #25 of the PNSD bearing in mind what was found by the OCSE (Sparkling Innovation in STEAM Education with Technology and Collaboration, 2013), i.e. that the new STEAM teaching models require the professional development and peer-to-peer practice exchange by teachers, two key factors for the successful implementation of effective curricula.

For this reason, the entire project was divided into two distinct and preparatory phases: a first phase of specific training of teachers, and a second one of implementation of training for students with the creation of a digital learning object.

The first phase involved a training period, for a total of 114 hours, organized into two teaching modules (50 and 64 hours respectively). The entire training was conducted by teachers specialized in the field of experimental and special teaching, and delivered online synchronously on the online S.O.F.I.A. platform.

The initial training had the global objective of enhancing and enriching the technological and digital skills of teachers belonging to the network, so as to make them able to effectively manage teaching planning with students in the second operational phase.

The topics addressed by the training course concerned the following specific sectors: computational thinking, programming and educational robotics, mathematics and data science with digital technologies, teaching science with digital teaching and augmented reality, designing and producing objects with digital, art and creativity, teaching STEAM in an interdisciplinary key, inclusion and personalization in STEAM teaching.

The specific objectives of the first didactic module, called “Rete Innova a 360°: Steam e futuro (VR, AR, AI) (Training initiative I.D. 77023)” were: i) to enhance STEAM teaching skills in a dimension of constant evolution, to strengthen the ability to use technological tools, including advanced ones, which make it possible to give greater effectiveness to STEAM learning processes; ii) to promote the creation of national pilot projects with the implementation of educational and training actions on STEAM disciplines, of a disciplinary and interdisciplinary nature, carried out with the use of innovative teaching methodologies; iii) to develop innovative teaching methodologies for learning STEAM with the educational use of technologies, capable of developing creative, cognitive and metacognitive skills, and, at the same time, social, relational, emotional, in a dimension of collaboration, inclusion and connection with the world and with people, essential prerogatives of effective learning. The first module, lasting 50 hours, was carried out over a period of 8 months from 4/10/2022 to 24/05/2023.

The specific objective of the second didactic module, called “Innova a 360°: VR, AR, AI (Training initiative I.D. 77919)”, instead, was to create learning objects by promoting the knowledge of Virtual Reality and Artificial Intelligence and its uses in teaching.

The module was divided into two sub-modules, each lasting 32 hours. The first one was entirely dedicated to the knowledge of virtual reality through a training in the use of viewers, 360° cameras, oculus and knowledge of specific platforms for the creation of school games in VR and AR. The second one was mainly aimed at artificial intelligence and therefore at the study of machine learning and the design of an activity with machine learning, also realizing digital storytelling. All aimed at being able to build a learning object with the students in the second phase of the project. The entire second module was carried out over a period of 2 months from 7/12/2022 to 9/02/2023.

The second phase of the project was fully operational. Each teacher belonging to the network has received an official assignment as tutor teacher to work with students for a practical and laboratory path lasting 35 hours. One teacher from each school belonging to the network was appointed as teacher assessor.

Each tutor teacher created with pilot classes, within their own school, an innovative STEAM learning experience by exploiting the skills acquired within the training path illustrated in the first phase, making use of the tested digital tools and methodologies.

Furthermore, all tutor teachers had the important task of preparing the material necessary to carry out the activities in consultation with the teacher assessor, administering the documentation aimed at monitoring and evaluating the activity, collecting the digital material created together with the students and sharing it with the schools belonging to the network also through publication on the pages of dedicated websites.

3. The teaching and learning experience: a case study for an innovative STEAM education

3.1 The didactic experience

The didactic experience was conducted by the DADA «Foscolo» Middle School, belonging to the «Foscolo-Gabelli» Comprehensive Institute of Foggia, Italy, which from 1 September 2019 is officially a school that operates according to the methodology of Didactics for Learning Environments (Italian acronym, DADA), the first school in the Puglia Region and belonging to the network of DADA schools.

A school that adopts this type of methodology discovers in the learning environment the central place of the delicate teaching-learning process, aimed primarily at exploiting the environment as a tool for learning on the one hand disciplinary skills, on the other hand transversal and interdisciplinary ones. The learning environment, thus, turns out to be the place of meeting, discussion and relationship, a place in which to discover one's talents, recognize them and enhance them in order to make concrete choices for one's personal and professional future. Exploring and being a builder of didactic learning environments allows each individual student to be in the front line co-builder of his own knowledge. All this, therefore, favors effective guidance teaching based on the concept of well-being and happiness at school.

The I.C. «Foscolo-Gabelli», for about two years, has been a signatory to a memorandum of understanding with the University of Foggia. In particular, with the supervision of DAFNE Department (Department of the Science of Agriculture, Food, Natural Resources and Engineering), it is conducting research aimed at studying new methodologies for teaching STEAM. Among these, the challenge of trying to test the teaching-learning process of Science within virtual worlds. This is the reason why, within the «Innova a 360» network, the I.C. «Foscolo-Gabelli» has chosen to present a study on how to be able to teach and learn at the same time within virtual environments managed in a synergistic way by teachers and students, where students can be given the opportunity to concretely build their knowledge, relating and expressing themselves to virtual and immersive context: the metaverse.

The teaching experience was aimed at three second classes and supervised by their Science and Technology teachers who have previously completed the training period.

The tutor teachers, three in total, conducted all the 35 hours of lessons in the form of digital laboratory activities for each class involved. The lessons were held both in curricular hours, as an enhancement of ordinary teaching, and in extra-curricular hours with a view to expanding the training offer.

The heterogeneous classes, for a total of 65 students were presented as follows in table n.1.

	Class 2A	Class 2L	Class 2N
Total number of students	22	22	21
Males	11	13	12
Females	11	9	9
Total number of students with special needs	4	4	3
Students with disabilities	1	2	1
Students with Specific Learning Disorders (SLD)	3	2	2

Table 1: Configuration of the students participating in the experience

For each class, a subject of the Science curriculum, relating to the human body, was identified: cardio-circulatory system, digestive system and assessment of nutritional status and nutritional principles. This last topic was developed through the CLIL methodology (Content and Language Integrated Learning).

Each class lived the teaching-learning experience within a virtual world that was built and created by the students themselves using FRAME platform¹.

FRAME is a multimedia platform that makes it easy to communicate, collaborate, and create in 3D environments, right from the web browser. It can be used for multiple purposes: for immersive team collaboration, events, education, virtual offices, digital twins and more.

In this case study, in particular, it was used to create an innovative teaching experience in 3D learning environments as real virtual worlds within which to carry out teaching activities and co-construct knowledge in a cooperative learning approach.

In fact, each class worked individually in their own virtual world followed by their tutor teacher.

The experience was divided into four phases (see table n. 2).

Phase 1	Presentation of FRAME platform and creation of virtual worlds.
Phase 2	Study on the use of digital educational tools and creation of multimedia digital products.
Phase 3	Enrichment of the virtual worlds with digital and multimedia materials produced and creation of an educational escape room within the virtual worlds.
Phase 4	Immersive activity in virtual worlds.

Table 2: Phases of the experiences

The realization of this didactic experience is structured as planning, conducting and evaluating a practical activity that can be reproduced as best practice in the curricular teaching activities.

From a methodological point of view, the research was configured as a case study, an empirical research of the exploratory type, given its novelty.

The research object, in our case cooperative learning in virtual worlds, was investigated through a plurality of both qualitative and quantitative tools and procedures. The evaluation activity of this case study proceeds in parallel along all the training and practical experimentation processes, providing pre and post data and information regarding the development of skills and liking, with the aim of detecting the results and supporting reflection for the progressive improvement of the practice of this didactic model.

Regarding the innovative experience, and therefore the use of virtual worlds as environments for learning and the co-construction of knowledge, initial and final self-reflection tools were provided for the students, consisting of questionnaires made up of structured questions about the satisfaction of the experience in terms of expectations (pre) and final satisfaction (post).

These tools were accompanied by questionnaires related to the knowledge of the educational tools proposed in the experience for the production of digital and multimedia products (qualitative analysis) and to the degree of ability on their use by the students through a 5-point scale (quantitative analysis). This assessment was conducted at the beginning and at the end of the experience.

The tutor teachers, afterwards, observed the performance of the activities in terms of attention, proactiveness, involvement, effectiveness of the relationship between peers, problem solving skills, compliance with instructions and degree of inclusion (observational and qualitative analysis).

Finally, a questionnaire was submitted to tutor teachers to elaborate a pedagogical point of view and own reflections on the innovative didactic action.

The whole assessment process was supervised by the evaluation teacher.

3.2 Phase 1: FRAME platform and virtual worlds creation

In the first phase, lasting 4 hours, the FRAME platform was presented to all students of each class participating in the experimentation.

1 FRAME platform can be reached and explored at the link <https://learn.framevr.io> [last viewed on 15/11/2023].

FRAME can be considered the easiest way to create your own corner of the metaverse. It works on desktop, mobile and VR because it runs directly from a web browser. Frame was created mainly with the aim of holding meetings, events and seminars in the corporate environment as it allows you to easily create spatial and multi-user sites.

The use of FRAME assumes that the web browser is the metaverse, considering that suddenly we are entering a new era of spatial computing which will result in many traditional websites, apps and services existing on the spatial web along with the 2D interfaces that we are used to today.

In the proposed didactic activity, FRAME was tested as a didactic tool for the creation of virtual environments aimed at carrying out innovative lessons based on group work, cooperative learning, and on a new way of transmitting and, above all, sharing knowledge.

Furthermore, using FRAME for educational activities carried out directly in a virtual environment is greatly facilitated by the fact that FRAME is built precisely so that non-technical users can use it to create compelling and useful immersive experiences with just a few clicks. So it turns out to be an extremely accessible tool for everyone, and totally inclusive. Its easy use allows it to reach all age groups and especially students with special educational needs.

First of all, each student activated their personal account using their Google Workspace for Education school account. Activation was free as the use of FRAME for free was chosen.

Secondly, the tutor teacher presented to the students the different virtual environments which are in FRAME database and, after having viewed all the available environments, the different characteristics, the loading spaces and the dimensions of each environment, the students chose the virtual environment that best reflects the design idea for the construction of one's own virtual world. The virtual environments chosen were: Zen Office 2.0 (class 2A), School (class 2L) and Support Center (class 2N).

In FRAME setting section, the spectator mode has been activated, so as to allow more users to enter the virtual world, and the permissions and roles have been established. Editing was allowed only to administrators, while interacting, viewing, speaking and using the video camera was granted to all users present within the virtual world. In order, the items photosphere, emoji, zone lock and streaming, within the permissions section, has been set by default. Each virtual world thus created was protected by a password.

All students have been made administrators of the virtual world by the tutor teacher, in order to make each student completely protagonist of the course, to the advantage of a real co-construction of knowledge, so as to develop autonomy, responsibility, the relationship between peers, cooperative work and peer-tutoring.

In order to enter the virtual world, each student had to create his own personal avatar activating the full body avatar setting. Some researchers of experiential pedagogy associate the avatar with the character of a videogame, who interacts without limitations, in a common and hybrid frame, with digital artifacts and physical objects, integrating multisensory information (Riva and Wiederhold, 2022; VanFossen & Gibson-Hylands, 2023).

The moment of creating the avatar was certainly the funniest moment, because thanks to the functions available in the menu, more specifically in the profile section, it was possible to customize one's avatar and entrust him with the projection of his own identity (Oprean and Balakrishnan, 2020). Each student has therefore created his own avatar to the extent that he sees himself. He felt free to express himself, not necessarily creating an avatar that recalled real features or characteristics, but redesigned his virtual self, according to his deepest vision of himself. Surely this phase is very important for each student, but mainly for students with special educational needs, who through this virtual vision of themselves break down differences, feeling completely equal to others. This brings out one's own uniqueness, the deepest and truest one.

Finally, the tutor showed the students how to manage the functions related to the platform's assets for inserting digital and multimedia material into the virtual world. In particular the students have learned to insert images, multimedia presentations, text labels and text areas, audio, 3D texts, shapes, 3D models, whiteboards, streaming screens, effects, web browsers, objects from inventory, web links and spawn spots, these the latter are very important for creating links between different places in the same virtual world so as to facilitate movement within the different environments of the virtual world.

3.3 Phase 2: Educational tools and digital and multimedia products

In the second phase, lasting about 15 hours, the students followed the theoretical lessons proposed by the tutor within the virtual world. The lessons were held online and in asynchronous mode in a specific area characterized by the presence of a multimedia panel with the Google Chrome browser and the Google Meet application. The students took part in the lessons with their avatar, connecting from the notebooks set up in the various computer labs of the school. During the lessons, in addition to having presented the contents of the three macro topics relating to the study of the human body, the main educational tools were introduced for creating digital and multimedia products to be inserted into virtual worlds.

Specifically, the software CANVA, Thinglink, Genially, Learning Apps, Wordwall, Kahoot, Google forms and the main Google apps (sheets, docs, slides) were proposed.

Digital education games, in particular are useful for knowledge acquisition, because produce positive behavioural changes, and they are highly engaging and improve students' cognition and perception (central and peripheral visual acuity, selective attention and memory) (Lamb et al., 2018).

The students have internalized the contents of the topics and the various themes through the creation of multimedia presentations with CANVA, in-depth videos, interactive games aimed above all at self-learning and a metacognitive evaluation, learning verification modules to be evaluated and self-evaluated in the learning, skills and competences learned.

The creation of digital and multimedia products took place through the inclusive methodology of cooperative learning.

The tutor teacher divided the students into heterogeneous groups, chosen on the basis of each one's characteristics, so as to favor a relational exchange, positive interdependence, and the ability to independently create a peer to peer and effective peer tutoring to achieve an efficient meaningful learning (Hertz-Lazarowitz & Miller, 1995; André et al., 2013).

At the beginning of the course, all students were given a questionnaire to evaluate their personal knowledge of the proposed educational tools. This qualitative analysis, together with the data obtained from the quantitative assessment by the tutor teachers regarding the degree of ability to use these digital tools and the digital skills of the pupils, has made it possible to obtain an initial general picture of the specific technological and multimedia skills.

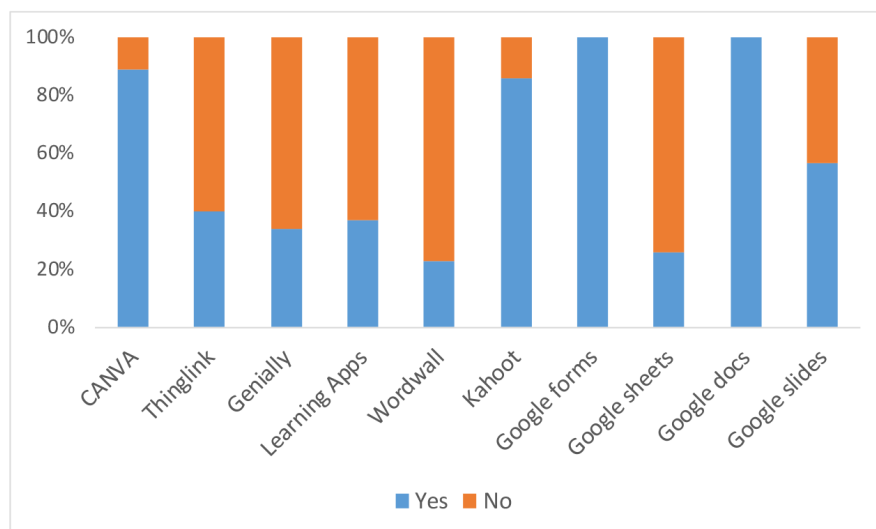


Figure 1: Qualitative assessment about the knowledge of the educational tools proposed in the teaching and learning experience. Data are expressed as percentage values

From the qualitative analysis of the data obtained (figure 1) it emerged that Google apps were the best known with a weighted percentage of 71% compared to 52% of the other digital educational tools.

This result may be attributable to the fact that students are used to using Google Workspace for Education in ordinary school and teaching activities.

Following this, CANVA and Kahoot turned out to be the best known by students, probably because after the pandemic period they found wide use in educational activities, respectively for the creation of captivating multimedia texts in graphics and for gamification and game-based learning (Siahaan and Nasution, 2022).

Less known, however, are the other tools proposed, a result which has confirmed the importance of the general objective of this experimentation, i.e. to provide specific tools for enhancing digital skills and the use of digital and multimedia tools in the teaching-learning process of the STEAM disciplines.

3.4 Phase 3: Virtual worlds and educational escape rooms

In the phase 1, the students of each class, guided by the tutor teacher, chose a learning environment among those proposed by FRAME platform. The learning environment, however, appeared as a mere scenario, devoid of any type of didactic material, except for the area dedicated to synchronous online lessons, thanks to the presence of a multimedia panel equipped with a Google browser.

Phase 3, therefore, turned out to be the crucial phase of cooperative learning, as the concrete construction of the virtual world took place, which was equipped with all the multimedia and digital material created within phase 2.

In this phase, the tutor teacher was a simple supervisor, while the students were the real conductors of the process.

Using the «edit mode» and «add asset» functions of the toolbar present in the foreground of the main screen of the platform, the students have enriched the virtual world, structuring it according to their own tastes.

Therefore, different virtual spaces for learning were identified. Multimedia presentations were placed in these environments, so students can discover all the disciplinary topics through their use (figure 2).



Figure 2: Virtual spaces for learning and examples of multimedia presentations are shown

In addition, the virtual educational games created were inserted in special virtual areas for gamification and the several verification tools developed were inserted in specific virtual spaces for self-assessment and metacognitive assessment.

Also, in this phase the students worked in cooperative groups and the peer to peer methodology was favoured.

The contents were built in a cooperative way, the knowledge was shared and taken shape through the various educational activities with which the virtual world has been enriched.

After structuring the virtual world, according to their personal taste, thus becoming an expression of the class group itself, the students created an escape room within the virtual world, which was important for the final phase of the entire teaching experience.

Several images depicting the letters of the alphabet were inserted within the virtual world, which, collected and arranged in the correct order, are able to compose a hidden sentence within a virtual game present among the various activities offered in the world.

Some letters were arranged randomly in the various spaces of the virtual environment, while others are the result of solving the various educational tests.

Thanks to the study that can be carried out in the virtual world through the contents relating to the macro-topic chosen for each world, conveyed by multimedia presentations, it is therefore possible to obtain the letters hidden within these didactic tests.

Figure 3 shows the environment chosen for the escape room.



Figure 3: Environment chosen for the escape room

The three class groups did not interact with each other, for this reason the students of one class were not made aware of how the virtual world had been structured and the work carried out within it by the other classes, including the creation of the escape room.

This allowed phase 4 to be conducted as effectively as possible.

3.5 Phase 4: Immersive activity in virtual worlds

In phase 4 the virtual worlds appear to be fully structured and completed. Therefore, the students of each class had the task of exploring the virtual world built by one of the other classes. Through the study of the materials and the carrying out of the didactic tests prepared, the students were able to solve the amusing puzzles present inside, find the hidden letters, compose the sentence and «escape» from the virtual world.

This phase was conducted in a ICT laboratory using laptops, tablets and personal computers, in fact FRAME platform works highly effectively through the browser. The immersion in virtual and augmented reality was also conducted thanks to viewers in a multimedia lab.

Pico G2 4K VR viewers were used to carry out a totally immersive experience; they are able to effectively support the FRAME platform.

The virtual worlds created by the students can be explored by scanning the QR code in figure 4, which redirects to an interactive box.

Figure 5 shows the interactive box. By clicking on the links available in the box it will be possible to immerse yourself in the virtual learning environments.

Each link takes you to the virtual world created by each class.



Figure 4: Virtual World QR code: scan to access an interactive box where there are links to explore virtual worlds

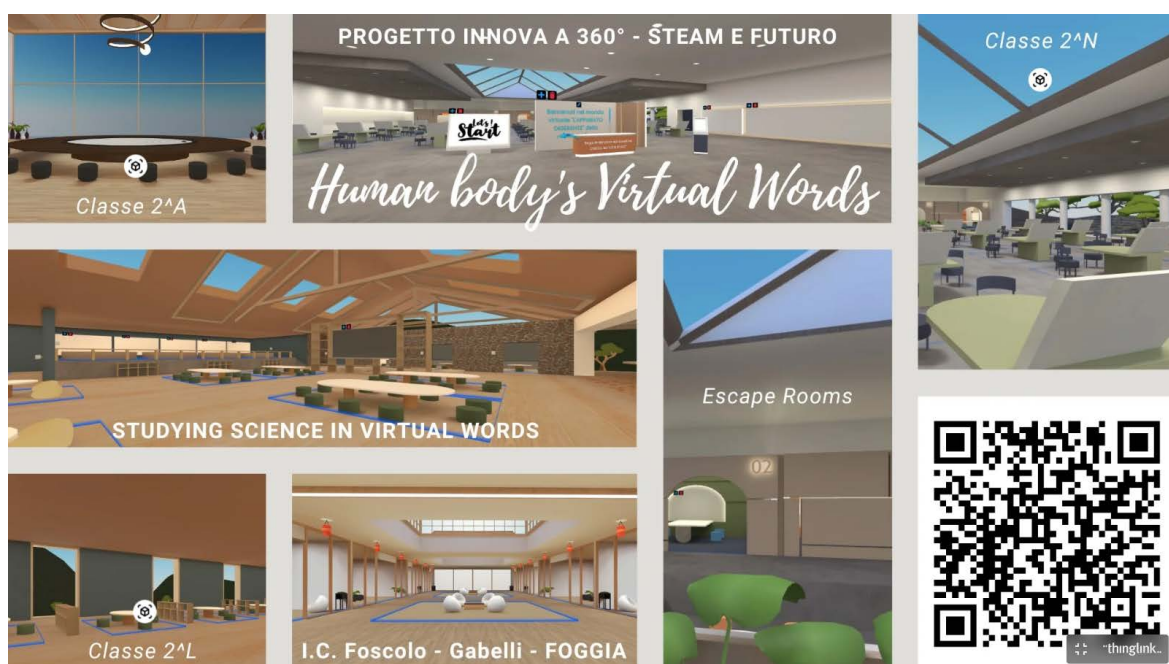


Figure 5: Interactive box “Human body’s Virtual Worlds”

It is possible, however, to explore the three virtual worlds individually also through the use of the URLs², specific to each virtual world.

4. Discussion of the results and concluding remarks

The proposed teaching experience immediately aroused the interest of all the students involved.

As can be seen from the graph in figure 6, after getting to know the FRAME platform and understanding the objectives of the experience, the students showed a high degree of initial curiosity towards the educational path proposed to them, and a high degree of expectations in the comparisons of using virtual worlds in teaching subjects at school and for self-study at home with classmates.

² The three URLs, specific for the three classes are respectively: <https://framevr.io/innova360classe2a> - <https://framevr.io/innova360classe2l> - <https://framevr.io/innova360classe2n> [last viewed on 15/11/2023].

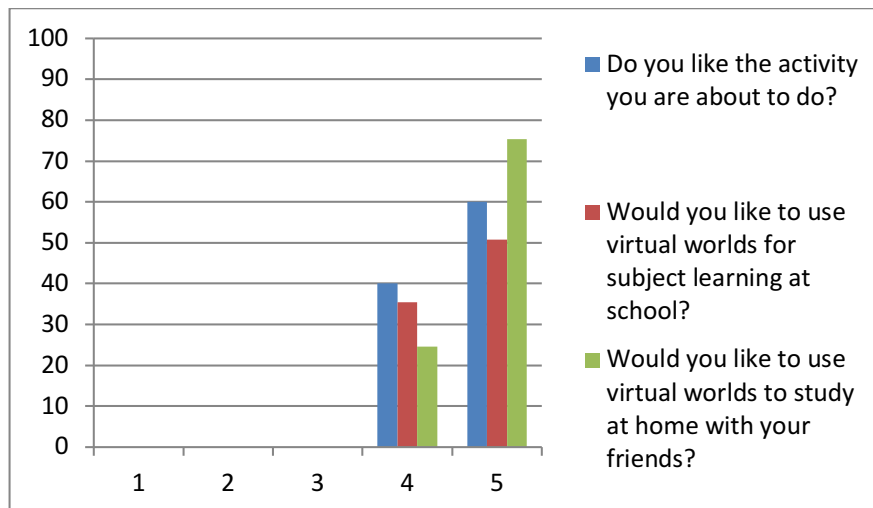


Figure 6: Satisfaction of the experience in terms of expectations (pre). Data are expressed through a 5 point-scale as percentage values

This result was confirmed at the end of the experiment.

In fact, a high degree of satisfaction was recorded and a concrete possible impact on teaching practice was positively assessed by the students, especially in the use of virtual worlds as a learning environment for personal and cooperative study, configuring a possible future projection of the teaching method (figure 7).

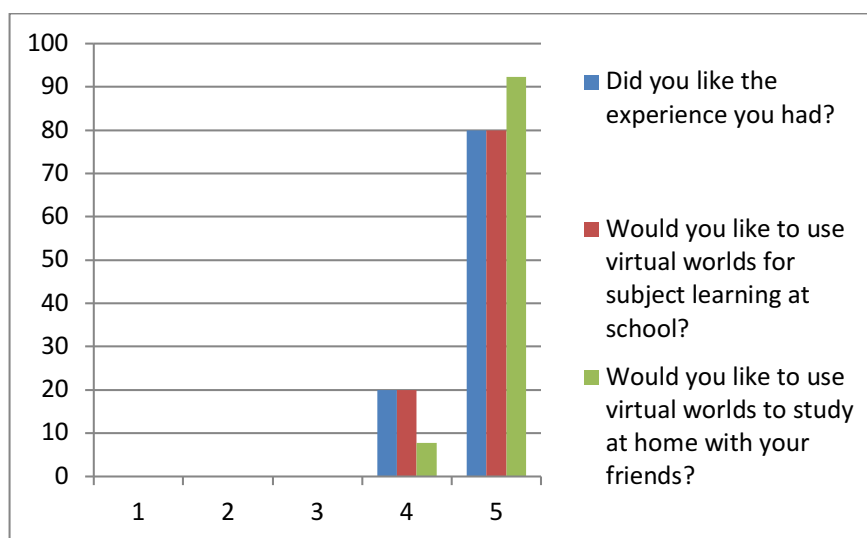


Figure 7: Satisfaction of the experience in terms of expectations (pre). Data are expressed through a 5 point-scale as percentage values

During the entire period of the experience, the teachers noted a high degree of interest on the part of all the students which translated into a high level of attention, both qualitative and quantitative.

A good level of productivity and effective time management were also observed.

In particular, a positive and proactive ability to approach the problem was recorded, associated with a good problem solving ability, above all thanks to the methodological action of peer to peer and peer tutoring, confirming how the use of technology has fully placed itself as a scaffolding to learning (Wood et al., 1976).

Inside the virtual world, the students recognized in their classmates the value and importance of mutual help and in the teacher the figure of an attentive and necessary guide for understanding the methods to be adopted in order to carry out the assignments correctly.

All the groups worked in harmony, each according to their own characteristics and the difficulties that arose were resolved easily, differently from what the teachers often found in the ordinary face-to-face work.

In fact, Cicconi and Marchese (2019), demonstrated that environments that allow Augmented Learning experiences could concretely contribute to changing, enriching and improving the learning experience since they favor collaboration and social interaction, focal points for the promotion of inclusive teaching (Mesa-Gresa et al., 2018; Howard & Gutworth, 2020; Sharma et al., 2020; Ke et al., 2022).

It has also been observed that students with special educational needs have been fully included in the entire virtual learning environment, and have been able to work autonomously within the group, requesting help from their peers where necessary and showing an almost constant degree of attention and participation and lasting.

Among the students with disabilities, one had autism spectrum syndrome; specifically, he was able to relate positively with his classmates while maintaining a higher degree of attention, in terms of duration and quality of time, than generally observed in the non-virtual environment.

What has been observed is in line with what has been indicated by some scholars on the perceptive aspect and the cognitive load used in learning environments (Sweller et al., 2011). In fact, it emerged that one of the components most involved is the construct of perception: when one is immersed in a virtual environment, the visual stimuli are amplified and, in this way, the use of working memory increases (Han, 2020).

Lombardi and Traetta (2023) hypothesize the metaverse and virtual spaces, as places without spatio-temporal and physical barriers, possible laboratories of inclusion, open to all students, especially those experiencing situations of social marginalisation and with cognitive and physical disabilities.

Digital Educational tools (5-point scale)	t	1	2	3	4	5	Average	Mode
CANVA	t_0	7.7%	10.8%	12.3%	15.4%	53.8%	4	5
	t_1	0%	0%	6.2%	24.6%	69.2%	4.6	5
Thinglink	t_0	20%	32.3%	16.9%	23.1%	7.7%	2.7	2
	t_1	0%	0%	20%	32.3%	47.7%	4.3	5
Genially	t_0	21.5%	29.2%	21.5%	20%	7.7%	2.6	2
	t_1	0%	0%	21.5%	40%	38.5%	4.2	4
Learning Apps	t_0	10.8%	32.3%	18.5%	27.7%	10.8%	3	2
	t_1	0%	0%	10.8%	13.8%	75.4%	4.5	5
Wordwall	t_0	27.7%	27.7%	21.5%	16.9%	6.2%	2.5	1
	t_1	0%	0%	15.4%	40%	44.6%	4.3	5
Kahoot	t_0	13.8%	7.7%	18.5%	13.8%	46.2%	3.7	5
	t_1	0%	0%	10.8%	13.8%	75.4%	4.7	5
Google Forms	t_0	3.1%	4.6%	23.1%	10.8%	58.5%	4.2	5
	t_1	0%	0%	23.1%	18.5%	58.5%	4.4	5
Google Sheets	t_0	30.8%	18.5%	24.6%	13.8%	12.3%	2.6	1
	t_1	10.8%	15.4%	24.6%	21.5%	27.7%	3.4	5
Google Docs	t_0	0%	0%	3.1%	12.3%	84.6%	4.8	5
	t_1	0%	0%	0%	3.1%	96.9%	5	5
Google Slides	t_0	6.2%	15.4%	21.5%	38.5%	18.5%	3.5	4
	t_1	0%	0%	10.8%	27.7%	61.5%	4.5	5

Table 3: Percentage distribution of pre- (t_0) and post- (t_1) experience evaluations relating to the degree of use of the proposed educational digital tools, media and mode (N=65)

The analysis of the results reported in table 3 is interesting, because it clearly emerges that in the conditions created for this didactic experience, the students have developed a high degree of mastery of technological and digital skills in reference to the ability to use digital educational tools proposed. Werang and Leba (2022), in fact, underline how the virtual environment increases student engagement, considered one of the most important factors influencing the learning process.

This confirms that working in a positive environment, full of interest and motivation, generates a state of well-being such as to put students in a position to be able to achieve the pre-established objectives more easily and more effectively. Facing school life with positivity and in a state of global well-being facilitates the learning process also with a view to enhancing one's personal talents (Dato et al., 2021).

In conclusion, although it is a case study, the didactic experience presented leads us to hypothesize in a more concrete way that the ediverse can be implemented practically and that, therefore, learning within virtual worlds can be a possible challenge for pedagogy experimental and special education.

Surely, this didactic experience takes the form of a small parenthesis of a much broader scenario to be characterized, explored and opened up to all disciplines, not just STEAM.

Structuring the teaching-learning process within virtual worlds can be an added value capable of giving effectiveness to an innovative didactic action and to a new way of conceiving educational action.

Certainly, the path of teacher training and awareness of the use of educational technologies as scaffolding to learning becomes fundamental, in particular of support teachers, who can use the high inclusive value of virtual and augmented reality as an active strategy in the various contexts of disability.

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Conflict of interests

The authors declare no conflict of interest.

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