

SURVEY ON THE METHODOLOGICAL AND DIDACTIC SKILL OF THE INCLUSIVE TEACHER. SUGGESTIONS ON ICT TRAINING IN THE POST-PANDEMIC COVID PHASE

INDAGINE SULLE COMPETENZE METODOLOGICHE E DIDATTICHE DELL'INSEGNANTE INCLUSIVO. SUGGERIMENTI SULLA FORMAZIONE TIC NELLA FASE POST-PANDEMIA DA COVID

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ABSTRACT

Methodological and didactic skills required today at school, especially in blended mode, require specific teacher training. This survey focuses on the resident students of the VII Course for educational support at the University of L'Aquila, and detects their incoming training needs after the Covid-19 pandemic. 49% of them have difficulties with educational software, while 63% have problems with ICT. Our results don't confirm national trends. Training activities must fill these gaps and include the support of augmented and virtual reality.

Le competenze metodologiche e didattiche richieste oggi a scuola, soprattutto in modalità blended, impongono una specifica formazione dei docenti. L'indagine si concentra sugli specializzandi del VII corso di specializzazione sul sostegno didattico dell'Università degli Studi dell'Aquila e rileva i loro fabbisogni formativi in ingresso dopo la pandemia da Covid-19. Il 49% di essi ha difficoltà con i software didattici, mentre il 63% ha problemi con le TIC. I nostri risultati non confermano le tendenze nazionali. Le attività di formazione devono colmare tali lacune e prevedere il supporto della realtà aumentata e virtuale.

KEYWORDS

Training needs, post-Covid, teachers, educational innovation
Fabbisogni educativi, post-Covid, insegnanti, innovazione didattica

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Introduction

The reflections that have emerged recently with respect to both the so-called “school theme” and “teacher training” during the pandemic and post-pandemic period, have mainly developed around the use of digital devices and their effectiveness in generating significant learning; the ability to reformulate teaching procedures and materials; the organization of the time and space of the teaching-learning process (Distance Learning DaD an Integrated DiD Teaching) and their evaluation (Bocci *et al.*, 2021). In this context, the support teacher, assigned to classes in which there are students with disabilities with the task of promoting the full process of inclusion, clearly assumes the role of a learning facilitator with pedagogical, didactic, methodological and relational skills to be used to promote inclusion with her or his mediation actions (DM.30 September 2011).

If the professional figure of the inclusive teacher is recognized as a key figure to ensure the quality of inclusive processes at school, it is essential to be able to identify the main emerging areas of expertise that constitute an important vector of change to transform teaching in an inclusive direction. This is followed by an act of professionalism that teachers must perform to be true professionals and therefore to become an effective resource for inclusion. Six are the main areas within which skills must be developed: Disciplinary skills; Methodological-didactic skills; Evaluative skills; Psychological and relational skills; Technological skills; Skills for inclusion and integration (Cao *et al.*, 2020). These skills must be developed in the training process of teachers, which obviously must start from an analysis of their training needs and around a series of considerations mainly because educational training today operates in different ways (online and in presence) and in different scenarios (physical and digital ecosystem).

In the 2021/22 school year, with Decree-Law 111/2021, it was arranged that all educational activities were carried out in a mixed form even during the pandemic. This has allowed many students with disabilities to participate in person, during periods of restriction. More than 86,000 students with disabilities took part in face-to-face classes, while 76,000 participated remotely. In any case, previous

experience on the same topic teaches us that schools certainly cannot do without digital tools. It is therefore necessary to rethink teaching intended as a means to encourage recursiveness between theory and practice, and interaction between formal and informal contexts. The attitude of those who learn also changes, in particular that of teachers whose continuous training requires the ability to choose a path starting from their own needs. This means that they should be in a position to know their own learning style; to self-regulate the learning process, and, finally, to be actively involved in it (Bocci *et al.*, 2022).

In the same way, it is necessary to rethink the evaluation, focused more on the learning process than on the results. In fact, evaluation should measure not only the knowledge learned, but also the skills and attitudes acquired or reworked (Isidori *et al.*, 2023). However, the data we have on inclusive teaching education is not always reassuring. With particular reference to teachers engaged in support, the 2021 ISTAT survey shows that in Italian schools 32% of them have been extracted from the curricular lists and have no specific training. In spite of this, some positive signs emerge for which in the last three years the share of specialized teachers for support has recorded a significant increase, going from 63% in the 2019-2020 school year to 68% in the 2021-2022. However, training in ICT educational technologies is still not widespread. In 62% of Italian schools only some teachers attended specific refresher courses¹.

Teacher training is one of the main issues in the education system throughout Europe. In the international context, there are still very different models of training characterized by elements of strong differentiation. Initial support training is sometimes proposed during the Degree Courses to become teachers. It is also proposed in service, especially during the employability period, and, in some other cases, it is consequent to a post-graduate specialization. In the European Union, around 70% of teachers report having received instruction in general pedagogy disciplinary content during the degree course, and a more specific inclusion-oriented one during internships. On the other hand, less than 50% of teachers took part in some form of support program at the beginning of their career (probationary year) during their first job. However, most teachers report having had this experience in countries where the probationary year is mandatory (ISTAT 2021).

¹ ISTAT (National Institute of Statistics). Report: The school inclusion of pupils with disabilities in the School Year 2021/22.

Before the COVID-19 pandemic, teachers normally attended face-to-face courses and seminars, read specialized literature, or attended conferences. In almost all European countries, teachers have to participate in in-service training for regulatory reasons. In any case, the Swedish National Agency (SNAE) has identified the need of experiential vocational training developed in a collaborative environment (Lelinge & Alwall, 2022).

Recent data confirm that the success or the failure of teaching, which today cannot ignore the strengths of blended models, depends on the interweaving of several factors such as the technological skills of teachers, the availability of technologies in their learning environments, family composition, and the role of evaluation in teaching and learning processes (Ranieri & Gaggioli, 2020). Starting from these premises, the present survey aims to detect, through self-assessment, the skills, knowledge and expectations of the teachers entering the VII cycle of the Specialization Course for the educational support of the University of L'Aquila who, in the last two years, have worked either remotely or in blended mode. Our goal is to promote a reflection on training proposals, and to consolidate the complex professional identity of these teachers in light of the profound transformations in the field of education due to the COVID-19 pandemic. After all, we have now learned that it is important to promote inclusive processes in schools, taking into account not only teachers' skills and their initial and in-service training, but also to optimise learning processes through the use of new technologies.

1. Sample, Methods and Survey Tools

The sample consists of 328 teachers (57 males, 268 females) with an age between 31 and 40 years (43.90%). For the survey we used a questionnaire structured with 97 items, administered at the beginning of the course and distributed *via* Google Forms. Three subjects did not respond to the survey. We found that 40.34% of subjects teach from 1 to 5 years; 46.24% serve in primary school; 58.23% of subjects have never served on support, while 41.77% are engaged in support but without specialization. The questionnaire includes 4 sections. *Section A* (Ascriptive data): this first section consists of a series of questions aimed at detecting: gender, age group, education and training, type and years of service, number of teachers engaged in support in possession of specialization and without specialization.

Section A therefore aims to outline the personal and professional profile of the teachers participating in the research (TAB. 1).

Training Area	N. Subjects
High School Diploma (Lyceum)	9% of subjects
Degree in humanities	48.78% of subjects
Degree in science	23.47% of subjects
Other Degree Areas	27.74% of subjects
Possession of title/Certification attesting skills in the technological field	57.38% of subjects
Lack of title/Certification attesting to technological skills	46.68% of subjects

Table 1 (Sample's descriptive data)

Section B (School experience): In this section attention is paid to the design and evaluation of metacognitive skills that can be translated into training actions. It is therefore aimed at evaluating the most specific teaching methods for the various disabilities (intellectual, autistic, motor, and sensory disorders). *Section C*: (Dissemination of Technologies, ICT): in this section, instead, attention has been paid to the use of educational technologies. Its main aim is to investigate the use of various technologies such as chats, WhatsApp groups, and the use made by teachers of platforms such as *Google Suite* for Education, *Microsoft Teams*, *Moodle*, and also the self-assessment of many IT tools (search engines, digital platforms,

virtual whiteboards). *Section D* (Professional behaviors of teachers): in this last section are investigated the professional behaviors declared by the teachers interviewed in relation to some teaching strategies and learning tools. In addition, it focuses on the analysis of integration, inclusion and learning as well as on methodologies and contents.

2. Results and Discussion

In our sample, 40.34% of subjects teach from 1 to 5 years; 46.24% of the sample serves in secondary school, and 58.23% of subjects have never served on support. The remaining 41.77% are engaged in support but without specialization. This last figure confirms a national trend for which 32% of support teachers have been extracted from the curricular lists and have no specific training. On the other hand, in those schools in which there in fact are support teachers, only 54% of them use ICT (ISTAT 2021). At any rate, 70% of our group claim that they do not foresee future difficulties in teaching on support and in using platforms. Moreover, they already use *Google Suite* (64.02%), *Teams* (32.31%), *Zoom Video* (13.10%) at school.

As for the diffusion of technologies, 85.36% of subjects claimed that they communicate frequently with colleagues and parents through chats, emails, and WhatsApp groups. As mentioned, the answers given to the questionnaire express an evaluation, advanced by the teachers, on a 5-point Likert Scale (1 indicates the minimum value and 5 the maximum value). The average score, for instance, was 4.32 for e-mail and 4.39 for navigation (TAB. 2). According to the analysis conducted, it is also evident that 69.51% of teachers said that parents constantly access the electronic register. This somehow favors the interaction with families. The data are in line with the national framework which does not highlight difficulties for teachers with respect to the most common electronic communication channels. In relation to the consequences of the pandemic on schools and teaching in general, 70% of teachers in our country declare a significant improvement in their relationship with technology.

INDIRE (2022) specifies that many of these practices were already widespread nationwide in schools even before the pandemic. The survey cited indicates that, in primary school, 53.9% of teachers have used them (*always*) and in 39.7% (*often*). In lower secondary school, the percentages are respectively 49.3% and 38.5%, while in upper secondary school they are 46.8% (*always*) and 38.4% (*often*). However, during the pandemic and post-pandemic, an overall improvement in teaching planning (10%) and an optimization of time and costs (9%) were reported.

A minority of teachers (14%) say it is difficult to effectively involve students during the lesson².

Overall, almost one in 4 students during the lockdown interacted *little or not at all* with their teachers. Percentage that rises up to 37% among primary children (Lucisano, 2020). A more recent study, focused on teachers engaged in the specialization on support and related to the learning processes of students with disabilities assigned for the direct internship at school, indicates that as many as 83.66% of the teachers interviewed considered the paradigm very constructive in terms of profit (Bocci *et al.*, 2022). Returning to our group, teachers are less competent (49% declare themselves as such) in the use of software for concept maps, educational software, speech synthesis, video editing, autoring, hypertexts, ebook, interactive whiteboards and Podcasts. On a rating scale of 1 to 5 the average score is 2.45 (TAB. 2).

electronic mail	4.32 ± 1.14
Internet browsing	4.39 ± 1.1
Download	4.3 ± 1.13
Search engines (Browser)	4.25 ± 1.13
Social web applications	3.91 ± 1.24
Digital platforms	3.2 ± 1.44
Websites for the realization of presentations	3.13 ± 1.44
Interactive virtual whiteboards	2.42 ± 1.39
Repositories OER	2.46 ± 1.4
E-learning o Fad	3.04 ± 1.4

² INDIRE 2022. Ricerca for innovation of the Italian School. Report impact of the pandemic on school in the school year 2020/21 (https://www.indire.it/wp-content/uploads/2022/02/Didattiche-Durante-il-Lockdown_10_01-1.pdf).

Podcast	2.48 ± 1.39
Storytelling	2.5 ± 1.34
Digital Storytelling	2.47 ± 1.39
Gamification	2.18 ± 1.26
Game-Based Learning	2.42 ± 1.31
Project-based in learning	2.21 ± 1.2
Inquiry-based learning	2.11 ± 1.18
Flipped classroom	2.78 ± 1.41

Table 2 (Use of interaction tools and innovative methodologies)

With regard to the series of items that refer to the professional behaviors of teachers concerning their experiences with students with disabilities, the largest number of teaching experiences at school has so far been carried out with students with intellectual disabilities, diagnosed with autism spectrum and Specific Learning Disorders (SLD). In particular, teachers enrolled in the specialization for secondary schools had difficulties in the didactic management of the cognitive load, and in the simplification of the teaching material in relation to the PEI. In fact, 63% of teachers indicate problems in the use of ICT to promote inclusive learning processes and in metacognitive teaching dedicated to BES students.

Conclusions

The foregoing survey aims to focus on the training needs of teachers who are preparing to engage in a specialization course after a professional experience at school carried out in *DaD* or *DiD* for at least two years. The specialization course is also conducted entirely in presence. The growing methodological and didactic skills in distance or blended mode required today at school (Cao *et al.*, 2020) impose the need for specific initial and in-service training starting from their actual situation (Almanera *et al.*, 2020; Isidori *et al.*, 2023). It was certainly a moment of methodological reflection, that is, an experience that invested teachers (regardless of their professional seniority) with the role of coach that accompanies and

supports the reflection on students' training processes. They have necessarily rethought their role as teachers as well as the role of the infrastructures in which they have worked. They have experienced that, in order to activate any training process, adequate infrastructures are needed. These include a good network (today not all regions are adequately connected) and various other devices that can be used remotely. We have also seen, and from this must start the attitude of teachers to integrate the training proposals, that if our students do not show serenity in the use of the means of communication and transmission, they do not feel comfortable in the use of innovative teaching methodologies. At most, they use platforms for synchronous teaching, but do not make use of digital educational mediation which potentially promotes learning processes in particular with BES students. For this reason, our survey does not fully confirm the national surveys for which it emerged that teachers, referring to the *Guidelines of Integrated Digital Teaching* (Zambianchi & Miotti Scarpa, 2022), have relied on some innovative and interactive teaching tools, such as *Project-Based Learning*, *Flipped classroom*, *Debate*, *Cooperative Learning*, and *Short Teaching*. This suggests that educational needs are affected by the territories's infrastructures in which teachers performed their professional experiences or will pursue direct or indirect traineeship. Similarly, curricular training of teachers must insist on innovative methodologies by proposing evidence-based ICT pathways, and the activities implemented must also include the use of augmented and virtual reality as well as artificial intelligence (fundamental for making remote laboratories possible).

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