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STRATEGIE VALUTATIVE CON L'UTILIZZO DELLE TECNOLOGIE IN UNA PROSPETTIVA INCLUSIVA

ASSESSMENT STRATEGIES WITH THE USE OF TECHNOLOGY IN AN INCLUSIVE PERSPECTIVE

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Abstract

This article reports the results of a survey carried out on 200 students attending the specialization course for special ed training during their first cycle of education. The purpose of this study was to understand whether technology made testing more "accessible" to students with SEN during the assessment stage of their learning. A questionnaire was administered for the survey so as to learn about the use of software and applications for the assessment of pupils affected by the most common learning disorders (DDAI, autism spectrum syndrome, cognitive disability, sensory disability - sight and hearing -, Down syndrome). The research shows that the teachers' technological skills are rather lacking and that they have little knowledge of applications. The literature on the other hand, has proven that technology is very useful and effective. Almost all of the trainees consider technology training essential to acquire the effective tools to improve the quality of assessment.

Questo articolo descrive i risultati di un'indagine su 200 studenti del corso di specializzazione per il sostegno nel primo ciclo di istruzione. Lo scopo era quello di capire se, nella valutazione dell'apprendimento dei bambini con SEN, le tecnologie vengono utilizzate per rendere loro le prove più "accessibili". Per l'indagine è stato somministrato un questionario per rilevare l'utilizzo di software e applicazioni per la valutazione degli alunni con i disturbi più frequenti (DDAI, sindrome dello spettro autistico, disabilità cognitiva, disabilità sensoriale - vista e udito -, sindrome di Down). La ricerca mostra che le competenze tecnologiche degli insegnanti sono piuttosto carenti e che c'è poca conoscenza di applicazioni che la letteratura ha invece dimostrato essere molto utili ed efficaci. La quasi totalità dei corsisti reputa la formazione sulle tecnologie indispensabile per acquisire strumenti efficaci a migliorare la qualità della valutazione.

Keywords
Evaluation, inclusion, ICT, SEN
Valutazione, inclusione, ICT, BES

1 Author of paragraph: n.2, 4, conclusions.
2 Author of paragraph: Introduction, paragraph n.1, 3, 5.

Introduction

The ISTAT data for the 2019/2020 school year show that the inclusive policies implemented during the past years have fostered an increase in students with disabilities in schools. In fact, 300,000 of these students are enrolled at the various school levels, 13,000 more than in the previous school year. This represents 3.5% of the total number of students enrolled in school who are looking for adequate educational pathways and specific to their situations. The same survey, published on December 9, 2020 shows that during Distance Learning (DaD), more than 23% of students with disabilities (about 70 thousand) did not take part in classes. There exist several reasons why it was difficult for students with disabilities to participate in DaD: the most common (27%) are related to the level of the severity of the students' disabilities, as well as the difficulty of family members in collaborating with the school (20%), and the lack of technological tools (6%). The data highlight that during DaD a much higher percentage of students with disabilities were excluded from educational pathways compared to students without disorders, which totaled only 8%. The scarce knowledge of technology in support teachers seemingly played an important role in the low participation of Special Educational Needs (BES Bisogni Educativi Speciali in Italian) students. Studies found that not even one support teacher in 1 out of 10 schools has attended a training course on educational technology while in 61% of schools only some teachers have attended courses. All of the teachers have attended at least one course on educational technology in only 28% of schools (Istat 2020). This survey is a dichotomy versus what is regulated in relation to the training courses for obtaining a special ed teacher specialization. Training courses provide a training-laboratory course of 75 hours on the use of ICT for inclusion, as well as the use of the same for the assessment of students. It is possible, therefore, that many support teachers have obtained their specialization in times prior to this rule.

The guiding principle of assessment in the new 2020 regulations regarding the definition of IEPs (Personalized Educational Plan) is "the progress of the student in relation to his or her potential and initial learning levels". The IEP, in fact, ensures compliance with and fulfillment of the rules relating to the right to education of pupils with disabilities and explains the methods of educational support. This includes the proposal of the number of hours of support for the class, the methods of verification, the evaluation criteria, the inclusion interventions carried out by the teaching staff within the class and in specific projects, the evaluation in relation to individualized planning (Decree 182/2020, art 2 g).

The evaluation of the pupils with certified disabilities is related to the objectives identified in the IEP prepared in accordance with Legislative Decree April 13, 2017, n. 66. The evaluation of pupils with specific learning disorders takes into account the personalized teaching plan prepared by the class's co-teachers in accordance with Law n. 170/2010 (O.M. 172/2020).

The evaluative perspective is that of evaluation *for the sake* of learning It has a formative character since the information gathered is also used to adapt teaching to the concrete educational needs of the students, modifying the activities according to what has been observed and beginning from what can be enhanced. This evaluation process must therefore take place with a rigorous co-responsibility between main classroom teachers and support teachers in the planning and formulation of objectives, between evaluation and redesign. If "...inclusion is achieved in the cultural, educational, design identity, organization and curriculum of educational institutions, as well as through the definition and sharing of the individual project between schools, families and other parties..." (D.Lgs. 66/2017). The importance of a synergistic collaboration between the actors on the scene is therefore clear.

1. Which assessment?

Evaluation is a category implicit in human action, practiced more or less consciously, at the conclusion of each act, observation, intervention individually made or in correspondence with more complex programs, plans, organic activities (Bernardi, 2005).

Charles Hadji (2017) declares that evaluation occurs whenever one makes an effort to observe a reality in order to tell its value and from a certain point of view, to take a stand on it. In

this very general sense, to evaluate means to make a value judgment on a reality on which the demands of action have forced us to question ourselves.

Thus, assessment is undoubtedly important in the learning process. But which assessment? Let us begin by saying that learning is the combination of two psychological paradigms: rote learning, which has the purpose of transmitting knowledge. It applies the behaviorist theory and is based on the educationist approach of having the teacher at its center who proposes a range of knowledge. In this transmissive approach, the teacher "measures" knowledge and behavior in the school setting, generally at the end of the transmitting process. It therefore quantifies human resources, performance standards, developing competition, creating merit rankings and selections in the school environment. It is an assessment of learning by assigning grades, but the grade has an "informational poverty" (Hadji, 2017).

But is this really what the pupil is? And above all, does the student with SEN need this? Heterodirected assessment fails at real skills because it selects behaviors and knowledge useful only, or mostly, in school settings. It also deploys a preventive and punitive method of error. The problem is that evaluation has often been associated with a punitive, classificatory, competitive vision of the relationship between people and the organization to which they belong (Cerini, 2012).

Reducing evaluation to a mere grade is not, in fact, "... only a docimological absurdity.... it is also a forgoing of education, a negative testimony of the adult, the sign of abandonment of the main imperative of education: the need for reflective work that lasts over time, the need for an expectation that allows the subject to examine what he has done by improving, progressing and surpassing himself" (Meireu, 2018, p.130).

The second paradigm of learning is, instead, meaningful learning (as defined by Ausubel in 1978) which aims rather to expand existing knowledge with new knowledge. It applies a constructivist theory and has the student at the center of the teaching-learning process. The person is placed at the center of the educational process, as repeatedly mentioned in the National Directions for the Curriculum. It also proposes a subjective knowledge and values each student and his or her potential and learning styles. The focus shifts from the school of competition to the school of cooperation, positive discrimination, solidarity and inclusion.

Constructivist teaching practices apply not only the transmission of knowledge, but above all, methodologies belonging to acting learning and experiential learning and uses methods that support error. In fact, authentic assessment also takes into account relational aspects and communication skills and evaluates participation in the design, implementation and evaluation phases of the task. It also supports self-assessment as a fundamental moment of metacognition, reflection and awareness of one's own way of learning, with autonomous and active student self-regulation and self-monitoring (Dettori, 2017).

Formative assessment is concerned with the teaching-learning process. It is functional to the improvement of learning and to the educational success "of each and every person". It therefore documents the development of the student's overall identity. It is also proactive because it gives value to whatever progress made by the student. Therefore, it cannot be only measurable. For students with SEN, evaluation implies more than measurement and control, knowledge, comparison, sharing of developmental processes, aimed at achieving the various goals of autonomy defined in the IEP (Cottini, 2021).

Also indicated in the recent Decree 182/2020, art 10 paragraph 2, with regard to learning planning, in the IEP, regarding assessment: if the pupil with disabilities follows the didactic planning of the class, in which case the same evaluation criteria are applied; if with respect to the didactic planning of the class customizations are applied in relation to the specific learning objectives and evaluation criteria and, if so, if the pupil with disabilities is evaluated with identical or equivalent verifications; if the pupil with disabilities follows a differentiated educational path, being enrolled in the secondary school of the second degree, with nonequivalent verifications; if the pupil with disabilities is exempted from certain school subjects.

2. Evaluation methods and tools

Formative assessment is related to a learning process whereby all students are able to acquire,

at an appropriate level, the basic skills of a discipline. Owing to this, learning comes through the use of teaching methodologies that can effectively respond to the different learning times for each student, their different learning styles, and their zones of proximal development (Greenstein, 2016).

For this reason, formative assessment, which is foreign only to the logic of voting:

- is part of the teaching-learning process and regulates it;
- identifies, in an analytical way, the strengths and weaknesses of the student's learning, in order to allow teachers to reflect and modify their teaching practices;
- allows formative feedback in order to establish a dialogue between teacher and student and to plan educational interventions aimed at recovery or enhancement;
- promotes and fosters the learning of all students through differentiated teaching, which provides each student with different rhythms and different teaching-learning strategies;
- engages the student in the analysis of their own errors/areas for improvement and their own abilities to promote both self and peer assessment and active participation.

The 2012 National Directions for the Curriculum and recent ordinances regarding assessment for learning indicate that "formative assessment precedes, accompanies, and follows the teaching-learning process."

The stages of this process take place in three steps: *ex ante* with the diagnostic assessment of training needs, areas of the curriculum pre-requisites and the state of the art of the educational context. This makes it possible to carry out an adequate educational planning.

The second evaluative stage is the one that takes place *in itinere*, which sees the true formative evaluation in which the learning verifications are carried out. This allows the teacher and the student to verify the strengths and the improvements to be made to the instructional design. Formative assessment supports the student's learning process, gathers a range of information, motivates learning and it is an exchange between teacher and learner. Feedback aims to reduce the distance between where the student is and where he or she should be. For feedback to be effective, it is necessary for teachers to have a good understanding of where students are and where they should be (Hattie, 2012).

But which instruments should be used? A carefully designed combination of objective, structured tests (multiple-choice tests, yes/no, true/false, completion or matching tests, etc.), subjective or unstructured tests (texts, essays, oral questions, etc.) that should be accompanied by rigorous checklists or grids with clear and intelligible standard indicators. In addition to these tools, there should also be inter-subjective or semi-structured tests (mind maps or conceptual maps, non-continuous texts -infographics-, summaries, experiments, etc.). Also in this case, self-assessment courses can help the student with SEN to identify strengths and weaknesses of the learning course, stimulating him to find, with the support of the teacher, new ways to achieve results and performance considered important with an aim to improvement (Dettori, Letteri, 2021).

Only in this way will it be possible to provide useful feedback to students who will benefit from a process that leads them to grow and identify new ways to achieve increasingly important results. The teacher, from this perspective, will be able to evaluate his teaching, allowing him to understand and correct any errors, bridge the gaps that are detected and advance to the next level of knowledge and skills. In this manner, the teaching team can ultimately verify not only what the student knows, but "what they can do with what they know" (Wiggins, 1998).

The last evaluative stage, that is the summative evaluation, mobilizes the processual dimension and that of the product. It is carried out on complex paths and does not overlap with the other forms of evaluation but incorporates and integrates them into a holistic formative framework.

It is a systematic process with various phases: of collection, of interpretations of data that lead, as part of the process itself, to a value judgment in view of an action (Beeby, 1987).

In the strictly educational sphere, assessment remains an important moment to offer the student with SEN and the family feedback on his or her functioning and on the effectiveness of the activities that the school is using to promote growth in the cognitive, emotional and social spheres. From this point of view, assessment assumes a decisive role in continually redefining the IEP on an ICF basis that asks the school not only for instruction but also to accompany the

student in a global educational process (Lascioli, Pasqualotto, 2021).

Technology can certainly facilitate the learning of a student with SEN and allows the teacher for a more accurate evaluation of the skills that he/she acquires, because he/she makes use of analytical and precise tools that can identify small and large progress that has been achieved (Dettori, Letteri, 2019). This does not mean that assessment should be thought of as the result of a series of proposed tests using technology but rather, it is given by the teacher's observation of the changes that the student presents in his school performance that must be analyzed, understood, and contextualized.

3. The research: objectives, methodology, sample

The purpose of the research described below was to understand whether, in assessing the learning of children with SEN, technology is used to make tests more "accessible". In particular, we sought to understand whether ICTs can facilitate more accurate testing to render assessment of learners with rather severe disorders (DDAI, autism spectrum syndrome, cognitive disability, sensory disability -sight and hearing-, Down syndrome).

The survey involved 200 students attending the specialization course for special ed training during their first cycle of education at the University of Sassari. 90% of the participants have at least two years of teaching experience.

The research questions were:

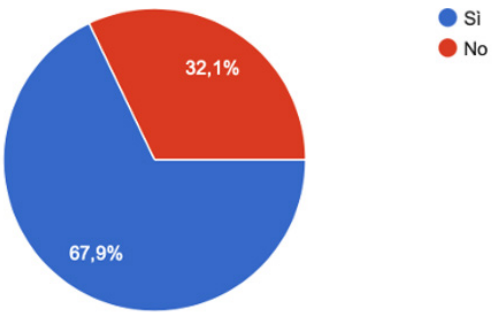
1. In the assessment of learning, is technology used to make testing "accessible" to pupils with SEN?
2. Have specific tests been used utilizing ICT to assess students with different disorders/disabilities?
3. What are the trainees' impressions of specific training on the use of technology for assessing students with SEN?

The questionnaire administered for this survey (viewable at https://urly.it/3ct7b) included 18 items with closed-ended and open-ended answers. It asked about the use of technology for teaching, software and applications of evaluation.

The research sample was heterogeneously distributed and involved participants of which 34.3% belong to the elementary school level, 33.6% to the secondary of I degree level and 32.1% to the secondary of II degree level. 70% of the participants have been teaching for 0 to 5 years and only 30% have been teaching for more than 5 years.

4. The phases and results of the research

A majority of the sample (67.9%) carry out evaluation on students with SEN. The remaining 32.1% of the sample do not evaluate SEN students and justified this by stating that assessment was prevalently carried out by the main classroom teachers and therefore they are not involved in the evaluation process of the pupil (graph 1).

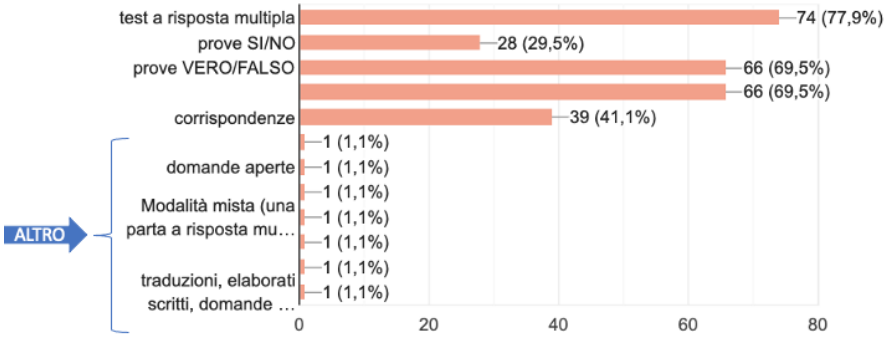


Graph 1 (assessment of the learning of pupils with SEN)

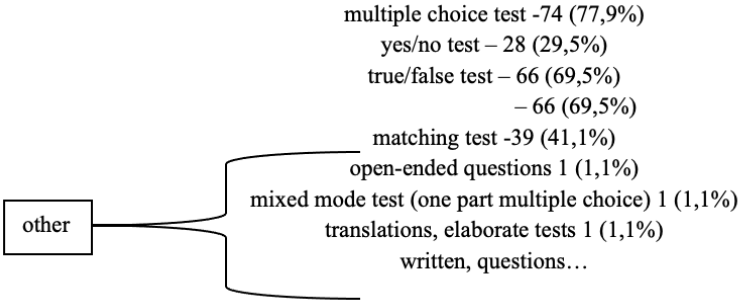
The findings focused mainly on the assessment methods administered to students with SEN:

- *Objective or structured tests*: multiple-choice tests, yes/no tests, true/false, completion texts, matching, etc.

The majority (77.9%) of the sample prefers multiple-choice tests, true/false tests or completion tests; only a minority administers yes/no tests or matching tests (graph 2).

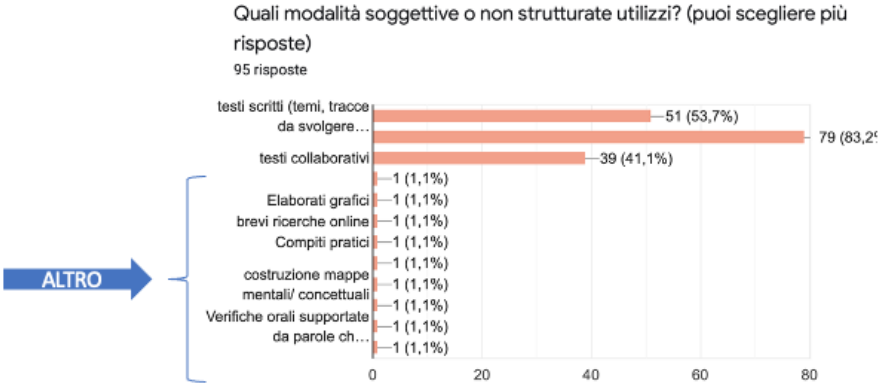


Graph 2 (use of structured or objective evidence)

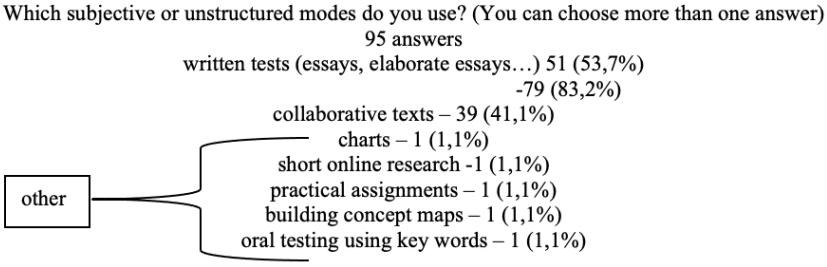


However, these tests are administered mainly (62.1%) with traditional methods (pen and paper) and only 37.9% know and use technological applications to create objective assessment tools.

- *Subjective or unstructured tests:* written texts, oral questions, collaborative texts, etc. As many as 83.2% carry out oral questions or require the compilation of written texts (53.7%) with their students with SEN. 41.1% carry out mostly collaborative texts (graph 3).



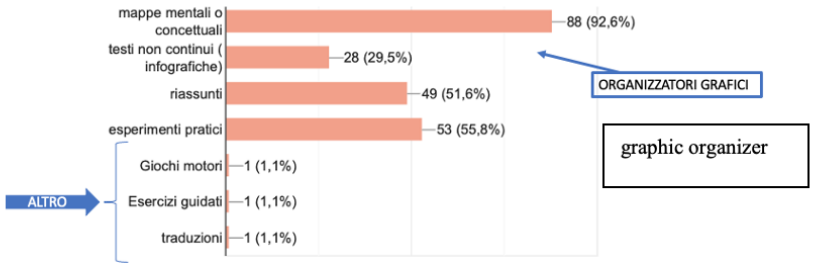
Graph 3 (use of unstructured or subjective evidence)



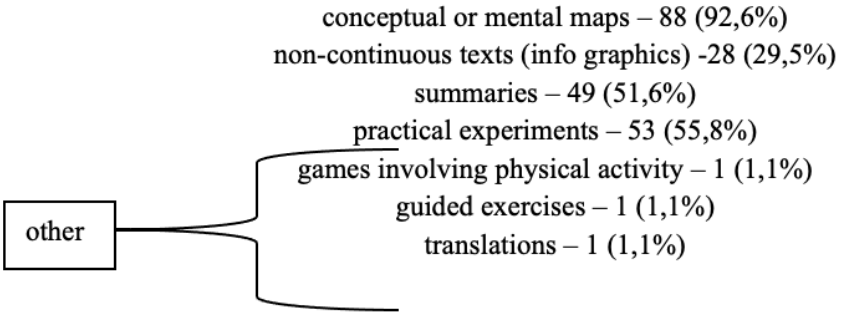
However, even these tests are administered prevalently (84.2%) with traditional methods and only 15.8% of the sample knows and uses technological applications to create subjective evaluation tools.

It should also be noted that, in order to carry out this type of evaluation, only 55.8% of the sample prepares checklists or detection/observation grids with specific indicators and evaluation descriptors.

Intersubjective or semi-structured tests: conceptual or mental maps, non-continuous texts, summaries, practical experiments, etc. The majority of the sample (92.6%) use graphic organizers. Only a minority have infographics created or used, possibly favoring summaries or practical experiments (Graph 4).

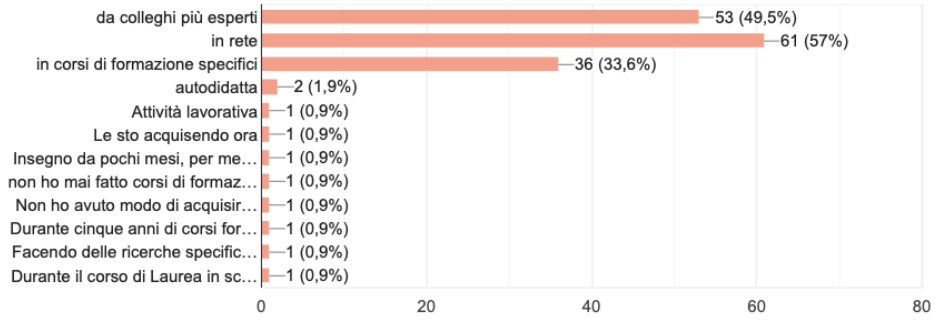


Graph 4 (use of semi-structured or inter-subjective tests)



Even this last category of tests are administered (73.7%) with traditional methods and only 26.3% know and use technological applications to create the aforementioned intersubjective evaluative instruments.

When asked, "*Do you have technology skills for teaching and particularly for assessing learning? If yes, where did you acquire them?",* 57% responded that they acquired these skills online, 49.5% through more experienced colleagues, and 33.6% in specific training courses (Graph 5).



Graph 5 (acquisition of technological-didactic skills)

from more experienced colleagues – 53 (49,5%)
online – 61 (57%)
specific training courses – 36 (33,6%)
self-taught – 2 (1,9%)
work activities – 1 (0,9%)
I am acquiring them now – 1 (0,9%)
I have been teaching for a few months, …– 1 (0,9%)
I have never had training courses…– 1 (0,9%)
I have never had the chance to learn…– 1 (0,9%)
Perhaps during my five years of training…– 1 (0,9%)
During specific research…– 1 (0,9%)
During my university studies…– 1 (0,9%)

The last question asked "On the basis of what emerged in the questions you answered, what are your training needs?". The majority (86.5%) answered that they would like to acquire technological skills so as to prepare valid assessment tools. 76.6% would like to know and learn how to use other compensatory tools such as voice synthesis, simulators, etc., 72.3% would like to learn and use applications to prepare inter-subjective or subjective (68.8%) and objective (65.2%) tests.

5. Discussions

The research shows that the technological skills of teachers are rather low and have been acquired mainly online (56.7%) or from more experienced colleagues (50%) and 34% have acquired them during specific training courses on technologies for teaching. These data confirm what Istat found in December 2020. Namely many (too many) teachers do not know ICT nor have done specific courses to acquire the necessary skills to accompany students with SEN in a quality educational path, including in DaD. This unfamiliarity with technology on the part of support teachers may be in part the cause that has led 23% of students with disabilities not to participate in didactic activities during DaD, as shown by the ISTAT data mentioned above. The survey also shows a lack of knowledge of teaching applications and testing, which the literature has shown to be very useful and effective both as compensatory tools and facilitators of learning, and as a way to measure the skills achieved by students with greater difficulties. Another

interesting fact is, that almost all (86.5%) of the trainees, who, as mentioned above, have been teaching in schools for years, albeit with a fixed-term contract, declare that they need targeted training to acquire effective tools and planning methods, including through technology, to improve the quality of assessment. The research shows that the sample of teachers knows little about ICT in general and therefore uses it occasionally in teaching and almost never uses it in tests to evaluate students with SEN.

If assessment is no longer understood as the verification of learning, but as the quantification and certification of the skills that the student achieves, it is essential to also use technology to have a plurality of tools for observation and knowledge of the student who is pursuing an educational path.

The latest indications (Decree n. 182/2020), which ask teachers to prepare an IEP based on ICF, presuppose a continuous, constant and responsible evaluation of the goals that students with disabilities achieve or fail to achieve. Evaluation, now more than ever, has an educational value because it allows the teacher, together with the student and the family, to understand the levels that the student has reached and to identify difficulties that must be understood for a continuous update of the IEP.

It should be noted that the IEP based on ICF, starting with a profile of functioning that is developed by a team of experts, must define the educational processes suitable for achieving the highest possible degree of autonomy of the student. Assessment that uses technology allows the opportunity to get to know students better, especially those students who struggle the most in school. Assessment through the use of technology also allows to better define a personalized educational pathway that, beginning from one's own resources, seeks to reduce the limits as much as possible for an adequate scholastic, professional and social inclusion. with an aim to promote a quality *life project*.

Conclusions

As the author Meirieu (2016, p. 137) states in The Pleasure of Learning, "It would be enough for the teacher to rectify without condemning, to understand the error without making it a fault, to allow a glimpse that it is still possible to progress (...). This is why school exists: so that people can learn to correct their mistakes and then make fewer mistakes outside, in the face of all kinds of dangers, and when the teacher is no longer there to parry the blows and help them get back on track".

Careful, conscious and responsible evaluation can certainly contribute to this goal. However, in order to do this, it is necessary that teachers have adequate training that does not neglect the contributions that new technology can offer in the knowledge of the student. Investing in in-service teacher training is undoubtedly the emergency that both this study and the above-mentioned ISTAT survey highlight.

Without true ICT training, many children will lose their way in the complexity of school, especially in an emergency situation like that during DaD, both because they do not have adequate resources in their families and because support teachers do not have the right skills to support them, sustain them, and encourage them.

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