IL MONITORAGGIO DEI PERCORSI MOTORIO-EDUCATIVI: LA REDAZIONE DI UNA CHECK-LIST

MONITORING OF MOTOR-EDUCATIONAL PATHWAYS: THE PREPARATION OF A CHECK-LIST

Gabriella Ferrara University of Palermo gabriella.ferrara@unipa.it

Francesca Pedone University of Palermo francesca.pedone@unipa.it

Giulio Francesco Polidoro University of Palermo giuliofrancesco.polidoro@unipa.it



Double Blind Peer Review

Citazione

Ferrara, G., Pedone, F., & Polidoro, G.F. (2024). Monitoring of motor-educational pathways: the preparation of a check-list. *Giornale Italiana de Educazione alla Salute, Sport e Didattica Inclusiva*. 8(3). Edizioni Universitarie Romane.

Doi:

https://doi.org/10.32043/gsd.v8i3.1166

Copyright notice:

© 2023 this is an open access, peer-reviewed article published by Open Journal System and distributed under the terms of the Creative Commons Attribution 4.0 International, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

gsdjournal.it ISSN: 2532-3296

ISBN 978-88-7730-494-0

ABSTRACT

The article describes an initial observation and evaluation tool, built and developed within an amateur sports association in Palermo. This tool was created for the motor-relational assessment of the initial abilities of parathletes that is carried out before the swimming course. It is a checklist consisting of items that characterize the three areas investigated in the pre-operative phase: behavioral area, relational area, area of individual functioning divided into implicit objectives and explicit or technical objectives. The assessment, according to the indications promoted by the International Classification of Functioning, disability and health (ICF), highlights the functioning to be increased through the swimming path. In fact, this tool makes it possible to harmonize the observational procedures among the experts of the multidisciplinary team, in order to facilitate an assessment that focuses on the central areas of motor skills and relationships, thus improving the initial evaluation process and the structuring of subsequent practices. This work illustrates the path of reflection, supported by concordance and inter-coding data, that led to the construction of the tool and the prospects for application.

L'articolo descrive uno strumento di osservazione e di valutazione iniziale, costruito ed elaborato all'interno di una Associazione sportiva dilettantistica di Palermo. Tale strumento nasce per la valutazione motoria-relazionale delle capacità iniziali dei paratleti che si compie prima del percorso natatorio. Si tratta di una check list composta da item che caratterizzano le tre aree indagate in fase pre-operatoria: area comportamentale, area relazionale, area del funzionamento individuale suddivise in obiettivi impliciti e obiettivi espliciti o tecnici. La valutazione, secondo le indicazioni promosse dall'International Classification of Functioning, disability and health (ICF), pone in luce il funzionamento da incrementare attraverso il percorso natatorio. Tale strumento permette, infatti, di armonizzare le procedure osservative tra gli esperti dell'equipe multidisciplinare, in modo da facilitare una valutazione che si focalizzi sulle aree centrali della motricità e della relazione migliorando, così. il processo valutativo iniziale e la strutturazione delle pratiche successive. In questo lavoro viene illustrato il percorso di riflessione, supportato da dati di concordanza e inter-codifica, che ha condotto alla costruzione dello strumento e le prospettive di applicazione.

KEYWORDS

Initial assessment, motor skills, check-list, interpersonal skills, inclusion. Valutazione iniziale, capacità motorie, check-list, capacità relazionale, inclusione.

Received 03/05/2024 Accepted 24/06/2024 Published 24/06/2024

Introduction

Against the background of the progressive imposition of organizational models and management structures decidedly oriented in the direction of increasing complexity and competitiveness, the relationship between evaluation and quality of training processes requires an open discussion and wide-ranging analysis, paths of reflection that see the contribution of the pedagogical research sectors integrated, even if they can be traced back to specific fields of interest or to different scientific societies.

For many years, research in the fields of psychology, pedagogy and teaching has shown that for the creation of good practices it is not enough to focus attention on the transmission of information, notions or knowledge, to promote knowledge (Vertecchi, 2003; Castoldi & Martini, 2010) but requires multiple factors. In fact, the teaching-learning process must focus on multiple aspects: it must be expressed in a fertile social climate that ensures a rich and dynamic exchange, stimulate in the learner the desire for discovery and confrontation, promote events that actively and consciously involve, lead to psycho-physical well-being.

In this scenario, it becomes essential to find a horizon of coherence with respect to the ends to which the design and action of pedagogy must correspond, preventing them from becoming invisible and deconstructing the idea according to which the theory of motor education can be both temporally and in its forms separated from educational practice.

For decades, the European Union and the World Health Organization have been promoting the development of physical education and sport as tools for psychophysical well-being, considering them founding principles of European citizenship, but also equal educational and social opportunities, with particular attention to people with Special Educational Needs (SEN). The European Commission, through two official documents¹, has begun to build a bridge between these two areas, in the belief that sports education is a value for all citizens, and that consequently people with SEN must also have equal learning opportunities.

¹ Resolution of the Council and of the Representatives of the Governments of the Member States, meeting within the Council, on the European Union Work Plan for Sport (1 January 2021 - 30 June 2024); An integrated approach to sport policy: good governance, accessibility and integrity - European Parliament resolution of 2 February 2017 on an integrated approach to sport policy: good governance, accessibility and integrity (2016/2143(INI))

Italy, through the amendment of Article 33 of the Constitution, also recognizes the educational, social and psychophysical well-being value of sporting activity in all its forms.

Because of the repercussions that the phenomenon has on a large scale and because of the vast scope of elements of complexity that it carries within itself, the scientific, cultural, but also political challenge posed, requires an open debate and wide-ranging analysis, paths of reflection that see the contribution of the sectors of research in the pedagogical field integrated, docimological and sporting, aimed at the evaluation of routes and systems.

1. Assessment

Redesigning educational experiences and learning environments to make education processes innovative has become, in fact, a real necessity: on the one hand, it means opening up teaching to new languages, new tools and new contents, but also developing pedagogical research and building new educational alliances. However, the instances of innovation that run through the sports system do not only concern issues of a methodological or pedagogical-didactic nature, but often involve areas that may only apparently seem to be of an exclusively technical and evaluative nature.

Evaluation is a necessary part of any training intervention (Baldacci, 2023). One of the most important points to be clarified is precisely that relating to the diversification of evaluation instruments, according to aims and objectives. Since its origins, didactic-evaluative research has tackled the problem of evaluation through a quantitative empirical-experimental approach, highlighting, at the same time and in the field of educational sciences, different methodological perspectives. The driving force behind the development of these studies can also be attributed to the growing affirmation of the pedagogical paradigm of Evidence Based Education (Hattie, 2011; Vivanet, 2015; Cottini & Morganti, 2015), a research orientation that, by paying close attention to the effectiveness of the methods applied and to the results of empirical didactic research in terms of evaluation.

All those who work in the field of education and training today need to structure decisions capable of making didactic-educational planning adequate both to the changes and social, cultural and productive general needs, and to the needs of individual students and the context in which they operate. Evaluation, in these terms, represents a real resource (Domenici, 2001; Dell'Anna, 2021; Gariboldi & Pugnaghi, 2021), a fundamental tool for making decisions that have a high probability of success, moving from a tool for fiscal verification of learning, and

ultimately for the selection, albeit indirect, of students, to a tool for diagnosis and self-diagnosis, regulation and self-regulation of the teaching/learning process.

Thus, at the beginning of each training course, a diagnostic evaluation is necessary to verify the knowledge and characteristics possessed by each one, which will allow considered choices for the consolidation or recovery of the requirements necessary to enter the procedure. During the teaching-learning process, through a formative assessment, it will be possible to identify the weaknesses and strengths of the students during the process, allowing individualized recovery and support paths. In the intermediate phase, through a summative function, the evaluation will promote the knowledge of the levels of competence achieved, highlighting the degree of validity, effectiveness and efficiency of the educational choices adopted in the planning phase and therefore any adjustments or compensations. At the end of the procedure, a final overall evaluation will allow, through the analysis of the gap between the skills achieved by the students and the planned training objectives, a real evaluation of the entire teaching system and therefore a possible revision of it, contributing to an overall analysis of the didactic intervention implemented. The information obtained in this last phase, in fact, can be used as a regulatory key, to re-orient and to improve the overall organizational and structural layout (Domenici, 2009; Del Gobbo & Federighi, 2021).

The evaluation comes out in all its formative value, with the aim of contributing to raising the quality of the proposal and consequently that of the results. This perspective is based on the idea that the core of the problem does not lie in the person in difficulty or in the difficulty itself (beyond the term used to define the need with which it manifests itself: syndrome, disorder, disability, etc.), but is determined by the obstacles to learning and participation that the person with a given condition encounters in his or her educational and existential path. What is hoped for is the analysis that leads to the advancement of the situations that are most suitable for each one and the overcoming of educational contexts built on a priori and reassuring criterion of normality (Chiappetta Cajola, Domenici 2005; Chiappetta Cajola 2008; Gattullo & Vannini, 2022).

1.1. Swimming evaluation

The assessment of swimming skills requires the use of different and integrated methods and tests. As is well known, the person expresses swimming competence through different and complementary factors: motor skills, basic and special coordination skills, knowledge and attitudes (Invernizzi, Eid & Strano, 2012).

Coordination skills, in fact, represent a set of fundamental skills that involve learning, controlling, and adapting the body in motion. These skills can be divided into two main categories: general or basic and special.

General or basic coordination skills are the fundamental skills necessary for the movement and adaptation of the body (Manno, 1984). These include learning new movements, controlling the movements performed, and the ability to adapt the movement to different situations. General coordination skills provide the foundation for the development of more complex and specific skills.

Special coordination skills refer to more specific and refined skills, which concern the control and coordination of the body in particular situations (Manno, 1984). These skills include balance, which involves maintaining the stability of the body, orientation, which involves the ability to determine one's position in space, reaction, which refers to readiness to respond to external stimuli, coordination, which involves precise and harmonious control of movements, rhythm, which involves synchronizing movements with timing, and transformation, which is about the ability to adapt movement to different conditions or needs.

In disabled individuals, general coordination skills can make the difference between a swimmer with typical development and another with a cognitive disorder, in fact while the typical person through correction can improve the technical gesture by learning from the mistake, vice versa the person with an intellectual disability learns with the mistake and in the future it will be more difficult to correct it, this is referred to as an adapted technique.

It is necessary to identify suitable evaluation models to be adopted in the preoperative phase in order to organize and monitor interventions.

The reference model must be linked to qualitative and quantitative standards that allow objective, intersubjective and intergroup comparisons. In fact, if on one hand the quantitative measures (meters/centimeters, execution times of a motor performance) require integration with the criterion-based model (in which comparisons between the skills learned by the student before, during and after the training intervention prevail), on the other one the qualitative measures (how to perform a task; problem solving, adaptation to the situation and the environment) for the interpretation of the data are fundamental.

Normative-comparative tests (motor tests) and criterial-non-comparative tests (lists of descriptors of motor learning; systematic observation) make it possible to systematically verify the quality of learning in the motor field and provide data, indirectly, on the processes of physical growth of the pre-adolescent. Of particular pedagogical importance is the "subject-oriented" assessment model that uses comparisons between measures and initial, intermediate and final assessments of

each student (Silverman & Marvasti, 2008; Sibilio, 2012) to retrace the learning path (skills learned, improvements obtained) and reflect on the difficulties encountered and the progress gained.

2. Observation

Observation in education is a fundamental process that allows practitioners to collect valuable data on student behavior, learning, and development. Through direct and systematic observation, educators can gain an in-depth understanding of the dynamics within the educational environment, including teaching and learning processes, social interactions, and the challenges students may face (Batini, 2020).

This practice allows educators to identify students' needs, identify their abilities and gaps, and adapt instructional strategies accordingly. In addition, observation can help assess the effectiveness of teaching methodologies and provide personalized feedback to students to foster their progress.

Observation in education can take many forms, including direct classroom observation, analysis of video recordings, field diaries, and interviews. Regardless of the modality used, the main goal is to collect valid and reliable information that can inform educational practices and contribute to student success.

2.1 The structure of the observation board

The instrument is an observation form structured in six distinct parts (shown in the appendix): the first three have as their object general information on the individual with reference to his personal data, anamnestic and swimming aspect; the other three sections aimed at investigating the most significant aspects on which the educational action is intended to be carried out, i.e. the behavioral, relational and functional aspect. The second part of the tab presents the *checklist* in which to record the observed actions. This part of the worksheet investigates the actions of the participants related to the processes at the individual and group level. Next to the *checklist* there are three columns, corresponding to the observations made. The observed actions should be recorded in the corresponding column.

Finally, there is an open section to pin the observer's personal notes, in order to argue or clarify what has been observed, with reference to the actions recorded in the third part, also to report unexpected elements or personal comments. It is also possible to collect complete and correlated information on the layout, setting or reconstruct significant events and better describe the observed actions.

3. Methodology

The observations of sports practices, carried out by suitably trained qualified experts, took place from October to May between 2021 and 2023. The observations were presented to the experts as an opportunity to reflect and to focus attention on the training method and on the quality elements of the boys' swimming action, a moment of non-judgmental confrontation that would allow them to open up to the new and to confront themselves on reality. In other words, the observation of practices has been presented as a useful data collection technique for research, based on the use of qualitative-quantitative shear observation grids and based on the approach of practice analysis (Laneve, 2005; Damiano, 2006; Mortari, 2010; Tacconi, 2011).

The observation was participant and pair; the two observers did the training at the same time (one in the water and one outside) and independently recorded the information. In the design of the observation, in order not to get lost in the vastness of the possible aspects of interest, it was decided to select the elements towards which the observer should focus his attention through the drafting of special checklists (Marshall, & Rossman, 1995; Berg, 2007).

The observation was carried out on a sample of 49 athletes in training, the objectives are external manifestations of learning (Vertecchi, 2003) and can mainly be of four types:

- behavioural, e.g. "Can wait their turn";
- relational, e.g. "Manifesting a collaborative attitude during group work";
- technical/psychomotor, e.g. "Flotation without assistance";
- autonomy, e.g. "Puts on the cap autonomously before entering the water".
 In order to make comparisons, it was decided to summarize the information collected by considering a hypothetical "average hour of training".

In drawing up the protocol for the observation of the practices, it was decided to focus on the key elements of training, and the behaviors implemented in relation to their presence or not, emphasizing elements such as: the mode of presentation, management, involvement, interaction between peers, participation and socialization.

3.1 Participants

The sample includes 49 male adolescents aged between 13 and 19 years, to whom the purposes of the research were explained and anonymity, confidentiality of the information collected and the results obtained were guaranteed.

The test was administered individually over the two-year period 2021-2023, analyzed by qualified personnel and the data entered on computer support were presented in synoptic tables and graphs to facilitate reading. Coming from various realities of the Palermo area, they attended the swimming preparation and specialization course at the Amateur Sports Association "II Sottomarino" three months after being included in the sports program whose educational methodology is based on the philosophy of inclusive sport, which pays attention to the person in all its manifestations and components: educational, social and cultural, as well as motor and sports skills.

The inclusion and permanence in the sports group is possible in compliance with the principles of civil life from which all violence is banned in order to achieve the change of the person also through individual and/or group activities: confrontation, sharing, training, cultural, recreational activities and professional courses, to experience situations "lived" in first person and form a mentality for which, having the ability to do so, problems must be faced in order to achieve autonomy and active and proactive protagonism through the discovery of oneself and others.

A first element that characterizes the sample is that of including adolescents with experiences of personal and relational distress due to their disability that led them to undertake the path.

4. Data processing

The optimal characteristics of an evaluation are validity, i.e. the coherence between cognitive objectives and stimuli proposed in the instrument, and reliability, i.e. the stability of the results in the face of the same performance if considered by different examiners (Vertecchi, 2003).

A description of the four levels was then provided that resulted from the consideration of at least four different dimensions, variously combined with each other:

- A situation in which the evaluative stimulus is presented to the athlete. The situation can be known, i.e. already experienced and modeled during the teaching activity, or it may contain elements that make it "unprecedented" for the athlete, requiring an extra effort to be understood;
- resources used to accomplish the task at hand. Resources can be provided by the coach at the same time as the stimulus, pre-organized in an exhaustive way according to the performance of the task, or not. In the latter case, the learner will have to call on their own or "other" resources;
- 3. continuity in the manifestation of the objective, demonstrating that it is not episodic, but rather stabilized over time;
- 4. autonomy in carrying out what is required by the evaluative stimulus, without the support of the coach or peers.

These four dimensions can be considered on two opposite polarities (known/unknown situation; coach's resources/own; occasionality/continuity of manifestation; autonomy/non-autonomy). The levels are therefore determined not only on an approximate quantitative distinction (i.e. First Acquisition, Basic, Intermediate, Advanced) but also on a declaratory that variously combines the four dimensions on the basis of their different polarity:

- a) In the process of first acquisition The athlete completes tasks only in known situations and only with the support of the coach and resources provided specifically in a discontinuous way;
- Basic The athlete completes tasks only in known situations and using the resources provided by the coach, both autonomously but discontinuously, and not autonomously, but continuously;
- c) Intermediate The athlete completes tasks in familiar situations autonomously and continuously; solves tasks in unfamiliar situations using resources provided by the coach or found elsewhere, even if in a discontinuous and not entirely autonomous way;
- d) Advanced The athlete completes tasks in known and unknown situations, mobilizing a variety of resources both provided by the coach and found elsewhere, autonomously and continuously.

The proposed dimensions are not replaceable but can be integrated with additional aspects considered by each individual swimming institution offered.

4.1 Concordance data

Since each hour-long workout was observed by two researchers independently (one in the water and the other one outside), the first step was to test whether the two researchers detected the same actions/indicators within the same time interval.

Concordance in observation is an important element to evaluate the reliability of a detection tool, therefore the functional choice was to calculate it through two measures: the intercoder confidence coefficient and the intensity of the intercoder agreement.

The intercoder confidence factor² (Kirk & Miller, 1986; Hughes & Garret, 1990; Bauer, Gaskell & Allum, 2000; Neuendorf, 2002; Krippendorf, 2004) expresses how much observers agree in identifying the presence of a certain event in a given context and time.

 $^{^2}$ The intercoder confidence coefficient can vary between 0 and 100 in percentage terms and indicates how much the observers agreed to detect the indicators.

In our case, we have chosen to operate a synthesis of concordances at the indicator level, in order to construct a first overall concordance data within each observed training session. There is agreement, at a general level, whether both researchers recorded the presence or absence of a checklist indicator in the same observed training hour.

The total coefficient (Table no. 1) was 95.02%, a high value overall; for the 3 indicators observed, the average measurement agreement never falls below 93%.

Indicators	Pair 1	Pair 2	Pair 3	Total
Implicit	94,44%	95,40%	93,10%	94,31%
Behavioral				
Goals				
Implicit	94,44%	94,83%	93,11%	94,12%
Relational Goals				
Explicit	92,59%	96,17%	94,45%	94,40
Technical				
Objectives				
Autonomy	96,30%	98,28%	97,13%	97,24%
Total	94,44%	96,17%	94,45%	95,02%

Table 1 – Intercoder Confidence Coefficients by Indicator and by Pair

It was then calculated how relevant and stable this agreement is for each observation3, i.e. the intensity of the intercoder agreement. In this case, the extent of the agreement in each action is taken into account, starting with the segments that compose it. The index is calculated by considering how many times the two observers have recorded the same information.

The overall agreement intensity is 93.81% (Table 2). The lowest percentage of agreement is related to the descriptors that refer to the Autonomy indicator (91.23%), while the highest percentage of agreement is related to actions related to the Implicit Behavioral Objectives (95.42%).

_

³ The *intensity of the intercoder agreement* does not take into account the direction of the agreement; in other words, the index presents the agreement of the researchers on both the presence and absence of a certain action. The agreement is expressed on a scale ranging from 0 to 100, where 100 indicates that the actions have been recorded in the same way by the two observers for the entire swimming action, while the minimum value indicates a total discrepancy of observation throughout the time frame considered.

Indicators	Pair 1	Pair 2	Pair 3	Total
Implicit	92,59%	95,40%	98,28%	95,42%
Behavioral				
Goals				
Implicit	88,89%	94,83%	97,13%	93,62%
Relational Goals				
Explicit	96,30%	93,10%	94,54%	94,95%
Technical				
Objectives				
Autonomy	85,19%	95,40%	93,10%	91,23%
Total	90,74%	94,68	95,76	93,81%

Table 2 – Intercoder agreement intensity per indicator and per pair

4.2 Frequency of Indicator Detection

Once verified that there is broad agreement among observers, it seems appropriate to focus on the indicators, in order to obtain information on their validity in the context of observation.

In order to represent how many times each indicator has been surveyed, and whether it has been measured in a concurrence by the two observers, some synthetic indices have been developed. The indices were calculated from the comparison of the information recorded by the two observers for each observed action.

Indicators	Presence		
	Detected		
Implicit	6,96%		
Behavioral Goals			
Implicit Relational	7,85%		
Goals			
Explicit Technical	3,92%		
Objectives			
Autonomy	2,78%		
Total	21,51%		

Table 3 – Frequency of indicator collection

The comparison makes it possible to highlight three distinct situations to which three different scores are assigned: if both observers have not registered the presence of a certain action, a score of 0 is attributed for the calculation of the

index; if one of the two observers has registered the presence of an action while the other has not, a score of 1 is given; if both observers have registered the presence of an action, the score is 2. In this way, it is possible to know the direction of the concordance and the intensity of detection of the indicators.

As illustrated above (Table 3), Autonomy activities are the least detected, followed by actions related to start-up, preparation and strengthening, the most observed indicators are technical objectives and behaviour.

Indicators	Concordance	Concordance	Disagreement	Total
	on absence	on		
		attendance		
Implicit	76,15%	22,12%	1,73%	100
Behavioral				
Goals				
Implicit	69,08%	29,15%	1,77%	100
Relational				
Goals				
Explicit	62,87%	35,74%	1,39%	100
Technical				
Objectives				
Autonomy	82,16%	14,80%	3,04%	100

Table 4 – Frequency of detection of indicators and discrepancies between observers

A further analysis allows us to specify whether the indicators were observed by both observers, by neither of them (agreement on the absence of actions), or by only one of the two (discordance on the presence/absence of actions).

As can be seen (Table 4), none of the indicators was observed in a discordant manner in a greater number of cases than in which they were observed in a concordant manner. This is one of the elements that prompted the research group to return to the process of operationalization of the indicators, in order to describe them in a more precise way. Following the results obtained, it was also considered necessary to develop a guide to interpret the situations observed as unambiguously as possible.

Conclusions

The described research path led to the creation of a tool to collect information, the check-list, the observation, the motor-relational evaluation of swimming skills, and the subsequent field experimentation to test and validate the tool (pilot phase). The indices related to the reliability of the tool (intercoder confidence coefficient and intensity of the intercoder agreement), in the pilot phase, can be considered satisfactory. More robust results of the same indices were calculated with observations conducted in the extensive phase. The reading of the data on the agreement between the two encoders within the minimum units of observation time (one hour), did not show percentages of discordance between encoders that suggested to review the way in which the indicators were operationalized and translated into observable actions, which could be used as a guide for the training and work of the observers of the extensive phase. The data relating to the extensive phase made it possible to validate the final version of the instrument.

The observation checklist, and the processing of data on the frequency of detection of the indicators connected to it, can be considered a directly evaluative tool and a valid support to the observer's work. It makes it possible to record observable actions, but also to reflect through the qualitative mediation of the observer, who comments on the data and contextualizes it with respect to the information collected.

The part relating to relational processes is therefore not isolated from the other technical aspects (context, input, process and motor result), but flows into the evaluative research report, as provided for by the methodology of the case study adopted.

The tool lends itself to being used in the integration paths of future athletes in the presence of any special educational need thanks to its high flexibility, in the intermediate segments, then in progress during the path to evaluate the changes and transformations of the individual and the path, as well as at summative level to evaluate the results achieved.

References

Baldacci, M. (2023). Evaluation and pedagogy. A semiological paradigm. *PEDAGOGY TODAY*, *21*(1), 017-025.

Batini, F. (2020). Observing the child today. Actualizing the lesson of Maria Montessori. *BILDUNG DIDACTICS OF FORMATIVE PROCESSES*, 13, 75-82.

Bauer, M. W., Gaskell, G., & Allum, N. C. (2000). Quality, quantity and knowledge interests: Avoiding confusions. *Qualitative researching with text, image and sound,* 3-18.Berg, B.L. (2007). *Qualitative research method for the social science*. Boston: Mass, Allyn & Bacon.

Castoldi, M., & Martini, M. (2010). *Towards skills: a compass for schools. A research path: A research path*. FrancoAngeli.

Chiappetta Cajola L. (2008). *Didactics for integration. Regulatory processes for raising the quality of education*. Rome: Anicia.

Chiappetta Cajola L., Domenici, G. (2005). *Didactic organization and evaluation*. Rome: Monolith.

Cottini, L., & Morganti, A. (2015). *Evidence-Based Education and Special Pedagogy* (pp. 1-348). Carocci.

Damiano, E. (2006). *The New Covenant. Themes, problems, perspectives of the New Didactic Research*. Brescia: The School.

Del Gobbo, G., & Federighi, P. (2021). Education and training professions: guidelines, criteria and insights for a taxonomy. *Education and training professions*, 1-404.

Dell'Anna, S. (2021). Evaluation Models of an Inclusive School System: Perspectives of Dialogue between Implementation, Research and (Self-)Improvement (p. 148). FrancoAngeli.

Domenici, G. (2001). School Assessment Handbook. Bari - Rome: Laterza.

Domenici, G. (eds.). (2009). Evaluation as a resource. Naples: Tecnodid.

Gariboldi, A., & Pugnaghi, A. (2021). Evaluation as dialogue. *IUL RESEARCH, 2*(4), 308-321.

Gattullo, M., & Vannini, I. (2022). An evaluation that analyzes and reconstructs: rereading didactics and docimology today, in dialogue with Mario Gattullo.

Hattie, J. (2011). Visible learning for Teachers: Maximizing Impact on Learning. London-New York: Routledge.

Hughes M.A., Garret D.E. (1990). Intercoder reliability estimation approaches in marketing. A generalizability theory framework for quantitative data. *Journal of marketing research*, 27, 2, pp. 185-196.

Invernizzi, P. L., Eid, L., & Strano, S. (2012). SWIMMING PLAYING VOL. 1: Agility and Dexterity in the Water (Vol. 1). Caraba'srl.

Krippendorf K. (2004), Content analysis: An introduction to its methodology, Thousand Oaks, CA: Sage.

Kirk J., Miller M.L. (1986). *Reliability and validity in qualitative research*. Thousand Oaks, CA: Sage.

Laneve, C. (2005). *Analysis of educational practice. Research methodology and results*. Brescia: The School.

Manno, R. (1984). Coordination skills. School of Sport, 1, 116-118.

Marshall, C., & Rossman, G.B. (2014). *Designing qualitative research*. Thousand Oaks, CA: Sage Pubblication.

Mortari, L. (Ed.). (2010). Say practice. The culture of schooling, Milan: Bruno Mondadori.

Neuendorf K.A. (2002), The content analysis guidebook. Thousand Oaks, CA: Sage.

Sibilio, M. (2012). The simple dimension of didactic action. *Nonlinear trajectories in research. New interdisciplinary scenarios*, 10-14.

Silverman, D., & Marvasti, A. (2008). *Doing qualitative research: A comprehensive quide*. Sage.

Tacconi, G. (2011). *Didactics at work: analysis of educational practices in vocational education and training*. Milan: FrancoAngeli.

Vertecchi, B. (2003). *Evaluation Manual. Analysis of learning and contexts.* Milan: FrancoAngeli.

Vivanet, G. (2015). Evidence based education. For a Culture of Didactic Effectiveness (pp. 1-156). Think multimedia.

Appendix

CHECK LIST

Personal Data	
NAME	
SURNAME	
AGE	
PARENTS' FIRST AND LAST NAMES	
SIBLINGS	YES/NO
	NUMBER
CITY/TOWN	
ADDRESS	
FAMILY EXPECTATIONS	
BOY'S INTERESTS, HOBBIES, AND	
REINFORCEMENTS	

Anamnestic data	
DIAGNOSIS	
ASSOCIATED PATHOLOGIES	
EPILEPSY	ATONICA/CLONICA
	LATEST EPISODE
PHARMACOLOGICAL THERAPIES	
THERAPIES/WEEKLY ACTIVITIES	
DISPATCH	FROM
	MOTIVATION

SWIMMING ASPECT:	
HAS ALREADY SWUM IN THE POOL	YES/NO
CAN SWIM	YES/NO
GOES UNDERWATER	YES/NO
SHOWERS autonomously	YES/NO
DRINKS	YES/NO
SPITS	YES/NO
SWALLOWS	YES/NO

BEHAVIOURAL ASPECT:	
HAS SPHINCTER CONTROL	YES/NO
ASKS TO GO TO THE BATHROOM	YES/NO
STEREOTYPES	YES/NO
	MODALITIES
LANGUAGE	YES/NO
	MODALITIES
AGGRESSIVENESS	YES/NO
	AUTO/ETERO
	MODALITIES

RELATIONAL ASPECT:	
SEARCHES OTHERS	YES/NO
EYE CONTACT	YES/NO
ISOLATES HIMSELF/HERSELF	YES/NO

\cap	DI	FR	Δ٦	$\Gamma \cap$	R	RΔ	TI	NG:

DATE:

Evaluation: First entry/in itinere

Feature									
THE CHILD INTRODUCE	ES HIM:	SELF/H	IERSEL	F:	Safe Active				
			Insecure Active						
					Passive				
					Hyperactive				
IMPLICIT (BEHA)	VIORAL) GOA	LS		EXPLICIT (TECHNICAL)	OBJECT	IVES		
	F.A.	B.	I.	A.		F.A.	B.	I.	A.
Instructional control					Autonomous flotation with devices				
Compliance with waiting					Autonomous flotation without				
times					devices				
Presence of stereotypies					Making Bubbles				
Presence of non-finalized					Dive				
self-aggressive behaviours									
Anxiety management					Diving				
Functional management					Presence of motor coordination				
of verbal or physical									
aggression used as a									
demanding or									
communicative modality									
in general									
Hyperactivity					Underwater breathing				
Management									
Attention skills					Postural control				
Personal autonomy									
Self-esteem									
Psychomotor skills									
IMPLICIT (RELATIONAL) GO	ALS				AUTONOMY to the rules of the pool:			-	
1	F.A.	В.	I.	A.	'	F.A.	В.	Ti.	A.
Presence of eye contact					Put bathrobe on the entrance and				
,					take it off before starting the activity				
Presence of body contacts					Put on the swimming cap				
Mastery of imitative skills					Showering				
Ability to spontaneously					Remove and put on the pool slippers				\top
and intentionally search					vourself				
for the reference figure			1		,				
Ability to relate to peers			1		Don't pee in the water			1	+
Game Sharing Capabilities					Don't drink the pool water				\top
Mastery of social			+		Managing the water space				
reciprocity									
Mastery of functional			+					1	+
verbal/non-verbal									
communication									
Mastery of emotional			1			1		+	
expression by means of									
verbal and non-verbal									

ANNOTATIONS OBSERVATIONS DETECTED	