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Apertura e flessibilità nell'istruzione superiore: oltre l'e-learning?

Atti del convegno
Perugia, 13-14-15 Novembre 2014

curatori
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Representations, technologies and competence for Learning Disabilities

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Abstract

Learning disabilities (LD) are a core topic in the recent regulatory and scientific debate in Education. Teachers must develop new competence because some students may have reading, writing and math disabilities. For this reason, they have to become mediators and have to create an inclusive organisation of learning environments. Starting from this framework and within a research approach on Teachers' Thinking that takes pre-reflective knowledge in the educational practice of teachers-to-be into account, the research study "Rappresentazioni, tecnologie e competenze per i DSA" (Representations, technologies and competence for LD) has been carried out. This research project, in cooperation between University of Foggia and University of Bari, is made up of a 23-question questionnaire including multiple choice and open questions submitted to 972 teachers in the making.

Keywords: Inclusion, Teachers' Thinking, Implicit, Competence, Learning Disabilities

Introduction

The research study has been developed in cooperation between University of Foggia (ERID Lab, *Educational Research & Interaction Design* Laboratory) and University of Bari (Laboratory of Experimental Education). It provided the representation of Education by teachers in the making towards students with Learning Disabilities (LD), focussing on the competence needed to manage classes, to use offsetting educational tools and measures as well as complementary methodologies and sharing measures.

In the framework of inclusive education, teachers have to know how to use educational mediators and technologies wisely thus obtaining different organisation of learning environments and in order to overcome any barrier and to foster a global involvement.

In the wake of Anglo-Saxon studies dealing with *Teachers' Thinking* and here taken as a reference model, the project aims at understanding the experiences of teachers in the making, acknowledging Teachers' Thinking as specific professional knowledge. In particular, this research ensues a survey carried out by Loredana Perla (2009) dealing with the effect of pre-reflexive knowledge in the educational practice of teachers in the making and the beliefs of specialised teachers-to-be through the use of metaphors and explanation interviews (Vermersch, 2005).

State of art

Reading, writing and math disabilities are a core topic in the recent regulatory and scientific debate in Education (in Italy, see: L. 170/2010, Directive 27.12.2012; M.D. 12/07/2011; Consensus Conference, 2011; Cornoldi, 2013; Stella, 2010; Stella & Grandi, 2011). This debate revealed the importance of the organisation of learning environments and school contexts in an *inclusive* perspective, overcoming the scenario of a simple integration of those needing Special Education (Thomas & Loxley, 2007) and in favour of a new organisation of educational settings that aims at eliminating any barrier to learning (Booth & Ainscow, 2008; Florian, 2012; Perla, 2013). Inclusion is considered an educational and social priority (Pijl, Meijer & Hegarty, 2013); in the *Education for all* program (Dakar, 2000), many initiatives have been organised. Recalling the values of the Salamanca Conference (1994), of the Madrid Declaration (2002) and the UN Convention (2006), an "education for all" can be fostered only if educational systems are reorganised.

Teachers should be able to make sure that school contexts may be fruitful for everybody, reorganising the school framework and organising time, space, educational tools and mediators (Damiano, 2013; Perla, 2013). Teachers become more and more learning *co-designers*, able to create educational itineraries together with students in real, hybrid and virtual environments (Kalantzis & Cope, 2012; Limone, 2012).

EADSNE, *European Agency for Development in Special Needs Education,* (2011) has also underlined the need of training for teachers' competence in the spreading of inclusive practices.

Based on these considerations, the project "Representations, technologies and competence for Learning Disabilities" has been created in order to look into the education models carried out by teachers in the making and addressed to students with LD.

This research is part of a framework of Anglo-Saxon studies known as *Teachers' Thinking*, born in the wake of Shulman's studies (1986a, 1986b) on the scientific acknowledgement of teachers' professional knowledge (Clark & Peterson, 1986; Calderhead, 1987; Day, Popoe & Denicolo, 1990). Currently, this framework is well-established in the international organisation ISATT. Research on Teachers' Thinking showed the importance of pre-reflexive knowledge that are embedded into the apprenticeship period of teachers-to-be, that is all those elements that typify teachers: beliefs, implicit theories, intentions, desires, feelings, memories. These elements, though not made explicit by teachers, play a decisive role in the creation of relationships, decisions, rules and management of class activities (Gommers & Hermans, 2003; Stadler & Frensch, 1998; Calderhead & Robson, 1991; Cabaroglu & Roberts, 2000). This is what Loredana Perla (2010; 2011) defined as "implicit" in Education and the core of her recent research: in particular, one research topic dealt with specialised teachers' beliefs and his/her peculiar traits of his/her competence (Perla, 2009).

Considering this research framework, this study aimed at understanding and fostering the point of view of teachers in the making about education methodologies, inclusion and competence needed in order to manage students with LD, acknowledging implicit and pre-reflexive knowledge of teachers in the making as professional knowledge.

Methodology

The research project has been carried out by submitting a 23-question questionnaire including multiple choice and open questions to teachers in the making for the academic year 2012-2013. The sample is made up of 972 people coming from three different educational trainings:

1) 368 attended a teaching qualification course (TFA courses at University of Bari and Foggia);
2) 528 attended an educational training course for LD organised by USR Puglia (Regional Education Authority) and ERID Lab (University of Foggia);
3) 76 attended a Master's program/refresher course in *Psychopedagogy for Learning Disabilities* (University of Foggia).

78% of the sample is made up of women (174 men, 760 women, 38 did not answer).

The questionnaire has been submitted to the teachers by using Google Forms and it is split into 4 sections:

1) *Personal details*;
2) *Representation of LD,* in which it is possible to understand teachers' representations about some features involving students with LD: relationships in the class, interaction among students, involvement in class activities, interventions made to foster students' autonomy;
3) *Technologies for LD*, dealing with the use of technology in educational practice for students having LD and with the increase of competence using offsetting technologies and mobile devices for LD;
4) *Competence for LD*, focused on: competence that teachers may have developed and need in order to work with students having LD; their degree of competence using offsetting educational tools and complementary methodologies with students having LD; training contexts of competence; reporting tools and assessment modalities.

Only results coming from section 4 will be here analysed.

Results and discussion

The first analysed question deals with any competence developed by the teachers involved in the research project. Among the available options, the highest number of affirmative answers is for "Enhance communication between school-family-health service", "Develop problem-solving strategies", "Organise educational activities for students having LD", "Define and support strategies to achieve a successful training"; conversely, the questions being less chosen were "Handling specific educational and assessment tools" and "Identify a problem" (see Table 1).

	1= scarce	2	3	4	5= excellent	no answer
Develop problem-solving strategies	3,7%	8,1%	25,9%	39,5%	10,3%	12,4%
Being responsible for a student with LD	6,5%	12%	22,7%	32%	14,8%	11,9%
Organise educational activities for students having LD	5,9%	10,4%	24,1%	33,7%	13,8%	12,1%
Identify a problem	8%	13,9%	29,2%	27,6%	9%	12%
Enhance communication between school-family-health service	5,2%	9,1%	22,1%	33,8%	17,7%	12%
Define and support strategies to achieve a successful training	4,7%	8,2%	27,3%	35,4%	12,1%	12,2%
Handling specific educational and assessment tools	4,9%	10,3%	31,5%	29,3%	11,4%	12,6%

Table 1 - Answers to question 11 "Which of the following competence do you think you have developed?".

Analysing the answers provided by the sample, it is interesting to underline that those who attended the educational training courses for LD and the Master's program show higher self-confidence when dealing with LD-related competence, while teachers in the making attending TFA (educational internships) seem more uncertain; most of "1" & "2" marks belong to the latter category. As for the entry "Being responsible for a student with LD", mark "1" was chosen by 61 teachers attending TFA courses, while only 2 teachers attending educational courses have chosen this option; no one attending a Master's program has chosen this mark. Mark "2" was chosen by 89 teachers attending TFA courses, 25 attending educational courses and 3 attending a Master's program. These results become more relevant because the number of teachers attending TFA courses is approximately half of the total sum of the sample in the remaining two categories.

As far as the question about preparatory knowledge for professional competence of teachers of students with LD is concerned (Customised Educational Plan, rules, offsetting tools, basic prerequisites of writing, reading and math abilities), there is a sort of balance in the answers provided; nevertheless, the imbalance involves the teachers attending the different courses.

The offsetting tool teachers can handle the most is "a computer with a word processor and a spellchecker" (654 people have chosen it, being two-thirds of the overall sample – 67,4%). Other tools chosen are: "non-technological devices: tables, multiplication table, questionnaires, concept maps" (61,9%), "audio-video recording" (56,3%), "E-books (textbooks, dictionaries)" (52,3%), "Maps" (49,1%). Other options are "a computer with speech synthesis software" (35,1%), "a digital recorder" (25%), "a daily record" (21,1%), "a voice-controlled calculator" (17,7%). These options are quite

scattered among the three groups and there is a balanced distribution between digital and traditional devices.

As for the question that deals with competence in using sharing measures, the analysis of data develops the following list of answers (in descending order): “Assessing performance of students with LD focusing on content rather than structure” (38,4%), “Using maps during oral tests, a preferred assessment form to written exams” (32,4%), “Creating educational contents and assessment tests that foresee an higher amount of time, and a reduced number of exercises for homework” (27,4%), “Organising tests using multiple choice questions” (31,8%), “Using abridged texts” (26,3%).

Assessment is taken into account in questions 20 and 21. Customised plans (chosen 498 times – 51,3%) are the most used reporting device in LD assessment. Then, achievement tests (28,9%), daily records/narrative tools (15,1%) and competence portfolio (12,4%). Teachers underline that LD assessment should be carried out by managing time variables flexibly (61%) and using simplifying methodologies (55,8%). “Encouraging communication” proves to be another widely chosen option (44,4%). One-third of the teachers agrees on the identification of specific assessment criteria (329) and the use of IT-based tests (35,8%).

As for the question “Which complementary methodology for students with LD do you think you still need to develop?”, the most chosen answer was “Cooperative education” (51.9%) and “Offsetting methodologies” (49,6%). Then, “Organisation of the learning environment” (47,7%), “Educational technologies” (46%), “Sharing methodologies” (34%). It is meaningful to underline that the most chosen option is a non-specific methodology for LD as it involves the whole class. The percentage is higher in the group of teachers attending TFA courses, reaching peaks of 60% of the overall number.

The most needed competence deals with a series of fields such as methodologies, education, assessment, education, organisational/relational (the latter especially for teachers attending TFA courses), medical-health-rehabilitation. Half of the limited sample of teachers attending the Master's program thinks that a research competence-based training is fundamental.

These observations (see questions 11, 12, 15, 16) are confirmed in question 17: “Which context has influenced you the most in the development of educational competence for students with LD?” Half of teachers attending a TFA course (165, 17% of the sample) thinks he/she is not able to deal with LD. What is more, 437 teachers (45%) involved in the research project think that actual work experiences with LD are the best way to get an adequate, specific experience: 253 teachers (26%) who attended a postgraduate training course agree with the same view. One-third of the sample states that he/she has already taken part in training and refresher courses on LD and 20% of the sample states that he/she has taken part in the promulgation and diffusion of this kind of events.

Research results

In line with the standard profile of “inclusive teachers” suggested by the EADSNE (2011), the answers provided indicate that teachers should take on responsibility of an *inclusive mission*, as “values and expertise indicated in the Inclusive teacher profile involve all students, not only those at risk of being excluded”. Among the complementary methodologies for students with LD that teachers feel they still need to develop there is a widespread methodology that is not DL-specific but envisages involvement and active participation of the entire class, that is “Cooperative Education”. This choice entails the whole class to be involved, thus avoiding teachers to focus on exclusion-related variables only. Another result can be analysed in this sense: “complementary methodologies” should be further developed so that students may overcome their boundary conditions and in order to achieve an educational success. Some of these methodologies are: offsetting methodologies, management of the learning environment and educational technologies. This is why it is not a surprise the fact that methodology-, educational- and organisational/relationship-related competence are those which teachers feel they need to develop most in order to favour inclusive educational activities. In particular, teachers attending TFA courses are more prone to look for this kind of competence. This result, which has repeatedly appeared in the questionnaire, indicates the need to implement the general methodological framework into university training programs; at the same time, it also indicates the need to foster further training activities through which experimental actions focusing on multiple

methods and educational interventions can be carried out. What is more, the competence that teachers are eager to develop deals with medical-health-rehabilitation activities. This element relates to a widespread phenomenon, that is a lack of cooperation among people because people of different domains (e.g., teachers and clinicians) belong to different professional environments, knowledge, codes. Only half of the restricted sample of teachers attending a Master's program believes that a competence-related training programme is of essential importance. This demonstrates poor interest towards practical reflexive activities, even though they should guide the operational practice of teachers: therefore, there is a sort of "emergency" to create learning environments for training and professional development of teachers able to withstand professional profiles, the latter showing the ability to deal with complex activities depending on participative, negotiation and critical reasons.

Probably, the most surprising result deals with assessment, a field scattered throughout the whole questionnaire. Results dealing with reporting tools used in assessing LD show that the most important device is the Customised Educational Plan. Nevertheless, this document is meant as a simple *list* of offsetting measures and tools, and for this reason assessment criteria are in the background. On the contrary, in order to make this document functional for assessment purposes it should contain relevant, realistic, congruent, practical and verifiable information (Fogarolo, 2012). Another result to be highlighted is the fact that one-third of teachers who answered the questionnaire agrees on the identification of precise assessment criteria and the use of digitised tests. Nevertheless, the quality of the assessment process is connected with the openness of criteria and the modalities of judgement attribution: to achieve this goal, the appropriate tools should be valid and reliable. A remarkable share of the sample states that he/she uses objective achievement tests but does not complete tests with other assessment tools. Most of teachers state that assessment procedures are taken into serious consideration: flexible time, simplifying methodologies and encouraging communication are some of the variables used by teachers to ensure "inclusive" assessment. As for assessment is concerned, there are some other critical issues that deal with competence teachers think they have developed. In this field teachers state they have not developed the competence "Identify a problem" and "Handling specific educational and assessment tools". As previously stated, even in this case teachers who have attended a TFA course feel they lack adequate and specific competence as for being responsible for students with LD. Some good results concern competence that deal with scheduling, problem-solving strategies and communication between school-family-health service. As for preparatory knowledge for professional competence of teachers of students with LD there are some good results, even though there are some differences among teachers coming from different environments.

As for responsibilities towards students with LD, the competence framework indicates a complex, functional educational behaviour that needs further technical qualification. This result appears more manifest in the group of teachers that have attended a TFA course. The final purpose is to enhance the quality of teachers' training; to achieve this goal, a training system that focuses on inclusive education rather than "special" education has to be planned and developed (Perla, 2013). What is more, research findings indicate that high technical qualification can be attained not only by means of university or post-graduate qualification courses, but most of all by means of direct experience. In this sense, operational plans may foresee:

1) re-definition of research, lifelong training and professional development models for teachers, aiming at a *bottom-up* approach in which competence from direct experience plays a central role. Our proposal aims at appraising *time & space* in which inclusive educational models, class management and specific activities may be examined in depth.
2) investing in training of people who carry out complementary, professional ongoing actions. According to the results coming from teachers who attended a TFA course, some specific knowledge can be acquired by flanking co-workers, assessing and evaluating situations and competence.
3) quality-based mapping of educational reporting tools that support assessment and planning procedures as well as offsetting/digital devices to support education of students with LD, thus aiming at highlighting both positive and critical features.

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Notes

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