

Group-based Early Start Denver Model: An educational approach for pupils with Autism Spectrum Disorder in Italian preschools

Group-based Early Start Denver Model: un modello educativo per alunni con Disturbo dello Spettro Autistico nelle scuole dell'infanzia italiane

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Research on the implementation of evidence-based-practices in education has increasingly focused on identifying models for children with autism spectrum disorder (ASD) that can be adaptable in preschools. This article outlines the main features of the Group-based Early Start Denver Model (G-ESDM), an intervention for children with ASD that has gained prominence in recent years (Vivanti, Duncan, Dawson, Rogers, 2017). Based on the philosophy, principles and strategies of the Early Start Denver Model (ESDM), the G-ESDM is a manualized evidence-based early intervention that includes a set of strategies to adapt to the physical and social learning environment in order to support pupil participation in classroom activities and the school community at large.

While the presence of students with Autism Spectrum Disorder (ASD) in Italian school settings represents a challenge for both special education scholars and teachers which has endorsed the paradigm of full inclusion, some reflections on the possibility of promoting the adoption of the G-ESDM in Italian preschools are required. This article outlines the main features of the G-ESDM models and concludes by illustrating a possible research itinerary for its implementation in the Italian educational system.

Keywords: Autism Spectrum Disorder; School Inclusion; Group-based Early Start Denver Model; Implementation science; Evidence-based Practice

abstract

Revisione sistematica

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1. Introduction

The presence of students with Autism Spectrum Disorder (ASD) in Italian school settings represents a challenge for both special education scholars and teachers who work within a single-track school system that has endorsed the paradigm of full inclusion. In fact, ASD is characterized by a dyad of symptoms expressed with difficulties in social communication and restricted, repetitive patterns of behavior, that impact social abilities, and seemingly hinder social participation, and consequently, the inclusion within the community. Thus, personalized and individualized teaching methods are required to respond to the learning needs of students with ASD considering its heterogeneity of manifestations.

As affirmed in the Italian Guidelines n. 21 (SNLG-ISS, 2015) and in the law n.134/2015 about treatment of children and adolescents with ASD and a plethora of research on ASD, the detection, diagnosis and the adoption of intensive interventions from an early age are essential. This has led to a worldwide commitment in clinical and educational research, with the latter aimed at identifying teaching methodologies that could implement evidence-based practices (EBPs) in formal educational settings (Cook, Odom, 2013; Colombi et al., 2015; 2018; Eapen, Črnčec, Walter, 2013; Fulton, Eapen, Črnčec, Walter, Rogers, 2014; Suhrheinrich, Stahmer, Reed, Schreibman, Reisinger, Mandell, 2013; Arthur-Kelly, 2017; Vivanti et al., 2017).

Among the models developed for children with ASD that are potentially adaptable for preschools, the Group-based Early Start Denver Model (G-ESDM) has gained prominence in recent years (Vivanti et al., 2017). As its name implies, the G-ESDM is based on the philosophy, principles and strategies of the ESDM, an evidence-based naturalistic developmental behavioral intervention (NDBI) that targets teaching in typical settings, activities and daily routines, considering the learner an active participant to the teaching-learning process. Its adaptation in groups, manualized by the authors and just recently translated into Italian (Vivanti, Duncan, Dawson, Rogers, 2019), involves a set of strategies to adapt to the physical and social learning environment in order to support pupil participation in classroom activities and community school life, and to promote social interactions with peers and adults. These characteristics make the application of this approach feasible within educational contexts as an implementation framework that fosters the inclusion of children with ASD.

This article outlines the main features of the G-ESDM and concludes by illustrating a possible research itinerary for its implementation in the Italian educational system.

2. G-ESDM: an emerging program that supports inclusive education for children with ASD

In the United States and other countries, legislation on inclusion has led to emerging programs that support inclusive education for children with ASD (Yell, Katsiyannis, Dragow, Herbst, 2003). It turned out that many school districts are looking for collaborations with well-known research institutions and experts on



EBPs such as, Pivotal Response Training (Suhrheinrich, Stahmer, Schreibman, 2007; Stahmer, Akshoomoff, Cunningham, 2011), JASPER (Joint Attention, symbolic play, emotional regulation) by Kasari and colleagues (2014), the ESDM, and its implementation in groups: the G-ESDM (Eapen et al., 2013; Fulton et al., 2014; Vivanti, et al., 2017; Vivanti et al., 2014).

In Italy, although the legislation on the integration and inclusion of children with ASD is rich and suggests conducting specific research activities (law 104/92; law n. 134/2015; SNLG-ISS, 2015), research documenting feasibility and adaptability of these approaches in school contexts is still scant. There are few studies conducted on the effectiveness of some methods in the clinical field (Colombi, et al., 2015; 2018) and on the opportunities that these methods can offer within educational contexts (Fontani, 2016a; 2016b; 2017).

If some practices are introduced in teacher education programs, both for mainstream and learning support teachers (for example, AAC, PECS, ABA, etc.), others, already documented in literature for their effectiveness in school contexts, are still hardly known (Vivanti, Dissanayake, Zierhut, Rogers, Victorian ASEL-CC Team, 2013; Vivanti, Dissanayake, Victorian ASELCC Team, 2016).

Moreover, it is important to consider that most of the clinical approaches adapted to school contexts present barriers for their implementation in Italian school contexts. For example, in other countries such approaches envisage pull-out sessions (1:1 time in separate settings with therapists) to support learning of skills that cannot be taught by teachers. In Italy, on the other hand, this practice would not be advisable since the application of inclusive education focuses on the design of learning environments that promote peer interaction and social participation on the basis of reciprocal cooperation and collaboration among teachers and school staff.

The implementation of the G-ESDM in Italian preschool settings may well be taken into consideration as a valuable addition to clinical treatment programs where teachers are directly involved in promoting early social learning through the resources of peers. This also includes opportunities to work on educational goals such as participation in cooperative activities, communication and engagement with peers; supporting families in everyday life and addressing their needs.

The G-ESDM is a group-based implementation of the principles and procedures of the Early Start Denver Model (ESDM) (Rogers, Dawson, 2010) within a group context. Although it shares ESDM principles and strategies, there are some peculiar characteristics, which, in essence, make the G-ESDM a promising model for children with ASD that can be implemented in the Italian educational context. Before delving further, it is essential to highlight the basic principles and strategies that the ESDM and the G-ESDM have in common.

2.1 From the Early Start Denver Model ...

The Early Start Denver Model is an intensive early intervention program for young children with ASD, which integrates behavioral strategies of Pivotal Response Training (PRT) with social and relationship-based principles of the Denver Model. The strategies of the ESDM can be applied to everyday life in a naturalistic environment, while teaching is guided by a comprehensive developmental curriculum

based on the science of early development and learning (Rogers, Dawson, 2010). The aim of the ESDM is to teach therapists to motivate the child to learn and provide as many opportunities as possible in order to maximize the child's developmental skills with the ultimate goal of expressing their full potential in the community (Vivanti et al., 2017).

These learning opportunities are integrated into teaching plans and presented within the 1:1 treatment sessions in the form of Joint Activity Routines (JAR). The latter are daily activities which involve play, personal independent routines and participation in family life, during which the child and the therapist are jointly involved in the co-construction of activity themes. Among all the JAR "forms" – activities at the table, activities on the floor, and sensory-social routines (SSR) – the authors emphasize the use of SSRs because these "*draw the child's attention to the partner's face, voice, body, movements, and gesture*" (Rogers, Dawson, 2010, p. 111) in order to foster social stimuli understanding, and to improve social learning. Referring to the aforementioned "*pedagogical attitude*" in other people, the effectiveness of the JARs lies in the therapist's ability to become the child's play partner: he/she needs to observe and understand what is motivating the child and what is not; where the child's attention is focused; and if he/she is able to bring the child's attention on him/herself to start "playing together" and deliver teaching (Rogers, Dawson, 2010).

In addition to the adult's ability to become a child's play partner, what contributes to make the JAR effective is its structured phases: set up, theme, elaboration, and closing. The set-up is crucial for several reasons: the therapist can decide, depending on the situation, whether to follow the child's initiative or propose special objects and materials. In the next phase, the therapist and the child are engaged together in a defined theme-based activity, for example, constructing a tower with building blocks, singing a song, reading a book, washing hands, preparing a snack at the table. In order to present novel elements that make the activity positive, exciting and motivating, one or more variations follows the theme. These consist in the elaboration of the original theme and can result in the implementation of new materials into the activity, execution of new actions, and enhancement of new activities with the same materials. When the therapist cannot further vary the activity, when the child loses interest and/or asks to finish or when the activity becomes repetitive and no longer productive for the purpose of the teaching plan, the activity ends. The closing of the activity can take place in different ways: you can ask the child to help cleaning up or you can use a transitioning strategy that helps the child to focus on the activity that will be proposed at a later stage (Rogers, Dawson, 2010; Rogers et al., 2012).

2.2 ... to the Group-based Early Start Denver Model

As Rogers and Dawson (2010) highlighted in their first manual on the ESDM, this approach "*involves a curriculum and a set of teaching procedures that can be used in a variety of settings, including group preschool classroom programs*" (p. 185).

Based on this proposal, since 2013, initial research has been carried out to investigate the efficacy and effectiveness of the ESDM delivered in groups (Vi-



vanti et al., 2013; Eapen et al., 2013). The group-based interventions took place at the Victorian Autism-Specific Early Learning and Care Center (ASELCC) affiliated with La Trobe University (Australia). Vivanti's research group (2013) conducted a one-year study involving 21 children for 15-20 hours per week. The children, who were divided into groups of three and were each supported by a therapist, followed an adaptation of the ESDM intervention program. The main differences were that rather than having one-to-one interventions, the children were in groups of three. Secondly, the classroom set-up was organized in activity centers and a specific routine was established. The comparison between input and output data showed the adoption of this Model had an impact on the development of cognitive and language skills.

Although these were promising results, the data collected was not sufficient to hypothesize that the adoption of a group-based approach of the ESDM could be carried out only with some adaptation and that it would not affect children's potential outcomes negatively; in other words, not able to maintain the efficacy and effectiveness levels of the original model. A similar research was conducted by Eapen and colleagues (2013) with a group of 26 children with ASD. Children were offered 15-20 hours of group-based and one hour of one-on-one ESDM intervention, per week for ten months. As for the previous study, input and output data were collected but, in this case, children took part in the activities in groups of 4. Results showed that these preschool-aged children with ASD statistically and clinically demonstrated significant improvements on a range of clinical outcomes, particularly in receptive language and communication areas.

A quasi-experimental study in 2014 has empirically supported the G-ESDM effectiveness and feasibility in the ASELCC community childcare center compared to another childcare-based intervention program. Outcomes of 27 children following the G-ESDM program for 1 year, 15 hours per week, showed superior gain in language and cognitive functioning compared to a control group of 30 children, matched by age and IQ, enrolled in a different program with similar intensity and duration. In addition to the analysis of the feasibility utilizing a series of measurements to assess acceptability, demand implementation, practicality, adaptation and integration, the results indicated that the G-ESDM can be implemented in typical community-based childcare centers in Australia (Vivanti et al., 2014).

Results of the research conducted at ASELCC were promising to expect the implementation of the model into the community-based childcare programs. However, it's only in more recent years that the group studied the G-ESDM transition to the typical education settings in Australia. Thus, the research group started a study aimed at understanding how the principles and procedures of the G-ESDM could be implemented both in specialized autism-specific classes and inclusive community pre-schools. The rationale behind it was that child care centers and preschools provide a valuable addition to treatment programs: promoting early social learning through the resources of peers; including opportunities to work on educational goals such as participation in cooperative activities, communication and engagement with peers; supporting families' everyday life and needs. In fact, if the community dissemination of the ESDM using the group-based design showed its effectiveness as an intervention, providing the potential for significant clinical and economic benefits, the following manualization of the

model has become an important turning point in the field of experimental research for ASD in education.

Indeed, the G-ESDM is based on the practices identified by Rogers and Dawson (2010), but it is not a 1:1 program which involves a therapeutic alliance between the therapist and the child; it is an intervention for groups of children. Some elements that the research group presents in the manual (Vivanti, et al., 2017) provide compelling insights for the actual didactic practices for all children in early development. For example, much attention is given to the *design of the G-ESDM classroom*: the transition from a 1:1 setting to an inclusive group setting profoundly changes the organization of the teaching environment. In the 1:1 setting, the therapist organizes the materials before the session in order to carry out the activity according to the envisaged teaching plan. In this case, there are minimal environmental variables allowing the therapist to control and manage the session in an optimal manner. Differently, in groups, contextual and environmental variables cannot be easily predicted and/or controlled: we cannot foretell if a child will cry and for what reason, if two children will have a conflict over a toy, when a child will ask a question, etc. Thus, the environment becomes unpredictable and “*a chaotic environment can be detrimental for children’s learning and socialization*” (Vivanti et al., 2017, p. 47).

For this reason, two important indications for the organization of the classroom are provided: “(1) *setting up learning areas and materials that cue the child about ‘what is going to happen’* (2) *and managing the quantity and quality of ‘competing stimuli’ that are present in each area*” (p.47). Therefore, following these suggestions, the classroom is organized to visually support the child’s orientation in the environment and to guide him/her to choose an activity. At the same time, the adult can follow the child’s initiative, directing the teaching in the areas that motivate and capture the child’s attention. Furthermore, the organization of materials allows the adult to eliminate competitive stimuli, controlling the access to potential distractors and using only objects and tools consistent with the theme of the activity.

Another important part of the G-ESDM class is the set-up of the *play-activity centers*, which are dedicated to specific developmentally-appropriate themes (symbolic games, reading, art, logical-mathematical thinking, etc ...), organized for small or large group activities and free play and build around daily routines that naturally occur in an educational context (e.g. washing hands after painting, cleaning up after sensory exploration etc...).

To further develop the setting, the authors suggest the use of a daily schedule, which not only explains the activities of the day (where they will take place and at what specific time), but also help to formulate teaching plans and learning objectives to work on.

In addition, the G-ESDM implementation depends on “*team cooperation and daily symphony*” (Vivanti et al., 2017, p. 64). Staff members communicate, cooperate and plan activities together. Built on co-teaching strategies, each team member has a specific role and explicit responsibilities for each activity performed in the classroom: lead, invisible support, and float. The *lead* has the responsibility to develop curricular activities in small and large groups and to pursue within the activities the individualized teaching objectives for the child with ASD. The lead is also responsible for coordinating the other team members.



A second role in the G-ESDM class is the *invisible support*, which could be assumed by learning support teachers in preschools. Those who hold this role are responsible for supporting and facilitating the participation of children within the curricular activities in small and large groups without, however, entering into competition with the lead. The invisible support “*will be positioned behind the children, ready to help in several ways: (1) by silently prompting children from behind in response to the lead’s interactions with the child when needed, (2) by managing challenging behaviors, and (3) by redirecting children to the activity when directed explicitly by the lead*” (Vivanti et al., 2017, p. 66). The last role is the *float*, responsible for monitoring the class and materially supporting the lead. The float can supply what the lead needs, maintain a consistent number of children in play areas, help children during the transition between play areas, ensure that the lead has time enough to organize group activities and collect data.

The definition of the G-ESDM roles allows us to foresee the possibility of employment by using the team of teachers present in the Italian classes.

Another element that characterizes the G-ESDM is represented by *peer interaction and social participation*. This is a distinguishing feature of the G-ESDM which uses peer models to support development trajectories of children with ASD. The interactions between typically developing children and children with ASD naturally support the learning process of these children and provide a tangible opportunity to work on social skills, interactions and social participation, which are the foundation of inclusive principles.

Moreover, a child’s family is considered as an important resource because it can provide crucial information about the child’s needs and strengths. The collaboration allows parents and teachers to make meaningful decisions on the child’s specific learning objectives and to determine intervention effectiveness and efficiency (Rogers, Dawson, 2010; Vivanti et. al., 2017).

These elements that characterize the G-ESDM seem to be close to the Italian educational values and practices and the inclusive value of the G-ESDM is supported by a recent randomized control trial where Vivanti et al. (2018b) explored the feasibility of implementing the G-ESDM in inclusive settings by ESDM-certified therapists and other trained early childhood educators. The study showed no significant differences in the quality of teaching and degree of fidelity, and children and parents’ outcomes in inclusive versus specialized classrooms aligning the G-ESDM as a model that sustains the current view of inclusive education. The research involved 44 children and had exit assessment data for analysis; 22 were assigned to the inclusive setting and 22 to the specialized setting for one year. During the year, the quality of teaching and the degree of fidelity to the ESDM was 80% for the two settings. The children in each setting increased their frequency of spontaneous vocalizations, social interaction, imitation, and a decrease in disruptive behaviors across the intervention year, with no apparent between-group differences at baseline or any evidence of superior gains among children in one setting over the other. In addition, the G-ESDM also improved the quality of teaching provided to all the students of both settings. Data on self-reported parenting stress (PSI) also showed a significant main effect of time, but no main effect of setting (Vivanti et al., 2018b).

This is true for the Australian context in which children with ASD can attend special or inclusive schools with the specialized support of a therapist. In the Ital-

ian context, these characteristics led to the hypothesis that the G-ESDM is a promising model for children with ASD that can be implemented in Italian school settings aimed at reaching the inclusive goals of socialization and social participation, acquisition of learning skills, working not on the individual but with the entire class, teacher professional development involved in the inclusion process, and support to the pupil's family with ASD (MIUR, 2012; European Agency for Development in Special Needs Education, 2012).

3. Evidence-based practices and their implementation in inclusive school settings

The increase in the number of ASD diagnoses in young children, the spectrum of abilities within this diagnosis, and its impact on children's lives have pushed public health and policy makers to go beyond and investigate feasible and sustainable interventions for the special educational needs of ASD children and the requirements of caregivers and society (Law n. 134/2015; Ozturk, Vivanti, Uljarevic, Dissanayake, Victorian ASELCC Team, 2016; Vivanti et al., 2017). In the past decade, several reviews investigated identifying EBPs for students with ASD with sufficient empirical evidence to enhance quality of special education services (Odom et al., 2010a; Wong et al., 2015). In a recent report, Wong and colleagues (Wong et al., 2015) identified and delineated around thirty practices and after a specific analysis they differentiated these in: focused intervention practices (Odom, Boyd, Hall, Hume, 2010b) and comprehensive treatment models (CTMs) (Odom, Boyd, Hall, Hume, 2014). According to Odom and colleagues (2010b), what emerges is that focused intervention practices aim at achieving only one specific skill for a specific learner in a short period of time. Some examples are the Pivotal Response Training, the Discrete Trial Treatment or Prompting. On the other hand, CTMs focus on ASD core deficit to achieve developmental impact or a broad learning over a long period of time (Wong et al., 2015). For all these CTMs, randomized efficacy studies have been conducted to provide empirical support for their program models by qualifying them as EBPs (Odom et al., 2014; Wong et al., 2015). According to the review (Wong et al., 2015) some CTMs are the Lovaas Model (McEachin, Smith, Lovaas, 1993), the Early Start Denver Model (Dawson et al., 2010), TEACCH (Marcus, Schopler, Lord, 2000) and the LEAP model (Strain, Hoyson, 2000).

Research on community-based interventions for children with ASD has proposed teaching methodologies with the purpose of targeting specific developmental domains such as social skills, personal independence, individual play skills, cognitive development, and so on. However, most of these approaches have been applied in clinical settings, even if they have the same goal of teaching behaviors relevant to the learner.

Although the effectiveness and the efficacy of clinical EBPs is empirically recognized (Calvani, 2012; Cottini, Morganti, 2015), there is a need for translating scientific results into practices so that professional development practitioners may promote children outcomes too. But it is not as easy and a direct transposition with the same effectiveness and efficacy in other settings as inclusive



school settings for several reasons. Firstly, EBPs are usually adopted by therapists whose training and roles are different from those of teachers. Secondly, adopting these models for teaching practices requires consideration of all the variables that characterize the educational context itself. Thirdly, only when the implementation of EBPs is run with high fidelity to the practice will it produce better outcomes (Fixsen, Blase, Naoom, & Wallace, 2009).

In particular, the teachers' role is relevant to promote the teaching-learning process of students, and at the same time, to foster their inclusion in school settings by abandoning the individual-medical approach in regard to students with disabilities and considering the complex interaction of many factors that contribute to their educational success using evidence-based teaching techniques (Browder, Wood, Thompson, Ribuffo, 2014). Therefore, it is important to recognize that teachers are involved in fostering teaching-learning processes to promote inclusion of students with ASD.

It is also necessary to bridge the gap between clinical practice and teaching practice for an accurate transposition of the EBPs in the educational field (Bondy, Brownell, 2004; Fixsen, Naoom, Blase, Friedman, 2005; Fixsen et al., 2009; Stahmer, et al., 2011; Suhrheinrich, Stahmer, Reed, Schreibman, Reisinger, Mandell, 2013; Arthur-Kelly, 2017) and as Whitehurst (in Cottini, Morganti, 2015, p. 22) states, teachers' professional skills are a key role for translating research to practice. However, promising research-based knowledge and results on EBPs cannot be easily applied to school implementation (Locke et al., 2016; Wong et al., 2015; Cook, Odom, 2013; Odom et al., 2010). An emerging field of implementation science may provide guidance to translate theory to practice so that service providers may access and provide professional development opportunities for teachers who also work with students with ASD and support to implement the interventions with fidelity (Fixsen, Blase, Metz, Van Dyke, 2013).

In recent years, reflection on these issues has led to consider implementation science as a study of the feasibility, adaptation and potential acceptability of evidence-based interventions in various contexts, including schools. Implementation science is emerging in order to address the successful adoption of a target program within relevant community settings by taking into account organizational systems, cultural processes and contextual factors. In fact, the new challenge of ASD research is to use this information to investigate contextual variables that can have an impact on the intervention effectiveness and deployment in the "real-world" settings in order to make that intervention feasible within a specific context (Vivanti, Kasari, Green, Mandell, Maye, Hudry, 2018).

In the field of implementation science, scholars have begun to look at schools as sites where structured models and programs could be adapted to the school ethos in order to support inclusive practices for students with ASD and to provide a range of benefits including: "consistency across people providing support; organized instructional settings; smoother transitions between school-age programs (pre-schools to elementary to middle to secondary); a shared knowledge base among team members of the school; improved family-school partnerships; and enriched social experiences for all students" (Whitbread, 2007, p. 2).

In this regard, Italian studies about the adoption of EBPs in Special Education suggest considering three fundamental elements: *efficacy research* (What works?) *effectiveness research* (When and for whom does it work?); and *imple-*

mentation (How can we make it work? Is it working?) (Cottini, Morganti, 2015). To address these questions, research on the possible application of the G-ESDM in an Italian preschool setting could be informed by the core principles of the implementation science model (competency, leadership and organizational drivers) as proposed by Fixsen and colleagues (2005). Even though research studies have shown that the outcomes of the implementation of the G-ESDM among children with ASD who attended communities, special and inclusive schools are promising, it is not possible to extend it in the Italian school context without an investigation that takes into account the differences in the practitioners' training programs, culture, beliefs, attitudes and values and organizational aspects. For this reason, a great collaboration between all the professionals involved is required. First of all, an implementation team with experts in special pedagogy and didactics, in G-ESDM, teachers and the school principal needs to be formed so that all can share their knowledge, skills and expertise via a transdisciplinary approach. Successively, an assessment of teachers' needs and practices is requested to identify the competency drivers (staff selection, in-service training, consultation, coaching, and staff performance evaluation). This data will provide the basis for the planning of a training program specifically designed to equip teachers with the necessary knowledge and skills to promote full participation and learning of their students with ASD. To sustain school system environments and facilitate implementation, the implementation team will also need to draw up a decision support data system, facilitative administrative support and intervention systems. In order to understand "How can we make it work?" (Cottini, Morgani, 2015) the experts will collaboratively investigate with the teachers and school on what needs to be done to meet teachers' needs and G-ESDM expectations.

This Active Implementation Framework adopted as suggested by Fixsen (2005), Cook and Odom (2013) may close the research-to-practice gap and "promote the systematic uptake of research findings and other EBPs into routine practice" (Eccles, Mittman, 2006, p. 2).

4. Pedagogical reflections about the implementation of the G-ESDM in the Italian context

The G-ESDM provides several pedagogical and didactic opportunities to the students with ASD, teachers and families through its implementation in Italian schools.

A number of considerations emerge from the analysis of the literature about G-ESDM and its adoption in community group-settings (Vivanti et al., 2014; Colombi et al., 2015; Colombi et al., 2018; Vivanti et al., 2019). Few studies have investigated the G-ESDM implementation in educational contexts (Vivanti et al., 2014; Vivanti et al., 2019), but it seems that a child-centered and relationship-based approach, improves the outcomes of children with ASD (Vivanti et al., 2014; Vivanti, 2018b), hence confirming previous studies on the ESDM (Dawson et al., 2010; Rogers et al., 2012). This perspective meets the Montessori educational tradition because during each activity the children and their potential and



skills are considered pivotal for their learning process which is supported by an adult who is a tutor and their play partner. Special pedagogy researchers could support teachers adopting these approaches with a *communicative action* (Gousot, 2012, p. 251) based on a dialogic relationship and the recognition of individual differences because the school is a place where everybody, with their own characteristics and experiences, can have the possibility to learn through a genuine reciprocity (Gousot, 2015). For this reason, both curricular and specialized teachers should plan together and adapt teaching and educative strategies to foster learning opportunities and peer interactions.

Interestingly, already in 1977, the Italian law n. 517 of 1977 highlighted the importance of planning, collaborating, evaluating and supporting the learning process of pupils and their participation through a joint effort between curricular and learning support teachers. The innovative aspect of the G-ESDM approach is the definition of specific roles (lead, float and invisible support), which can be taken on by the teachers irrespective of their position.

Moreover, the G-ESDM principles and strategies are in line with Italian law requirements to promote full inclusion (Gazzetta Ufficiale, 2017) and the educational success of students with disabilities, including those with ASD, by meeting their special educational needs and assuring good learning opportunities and quality of life. In fact, the G-ESDM requires the design of activities whose learning objectives are specific on child's ability, potential, motivation and preferences and that make full use of each learning opportunity during the day. Within a bio-psycho-social perspective a great attention is on the individual and his/her potential but also on the environment.

The Italian guidelines (MIUR, 2012) already give some indications to adapt the environment and activities to promote children's active learning and play, but the G-ESDM specific design of the classroom may allow teachers to remove elements that could hinder the learning process of students with ASD. Consistent with the pedagogical principles introduced by Schopler and colleagues (Schopler, Mesimov, Hearsey, 1995) and Montessori (1948, 2004), each area (ex. symbolic play, reading, cognitive, art corners) is organized to meet clear objectives and create learning opportunities with purposefully-selected resources to promote scaffolded peer-to-peer interaction and to target learning domains and skills (Vivanti et al., 2014).

In order to do so, a strict collaboration among schools, families and all professionals who work with the students with disabilities by planning an individualized project with a specific Individualized Educational Plan. The team should indicate educational strategies and resources that favor relationships, socialization, communication, interactions and independence through the setup of the educational environment (Gazzetta Ufficiale, 2017, "Capo IV", art. 7) and both curricular and specialized teachers are to collaborate closely (Law 517, 1977).

The G-ESDM principles and strategies seem to address these objectives, but there is still an aspect on which to reflect in a profound way: what role does the educator play within the process of inclusion of the child with ASD and what would be his role within the G-ESDM? The debate on the role and the competences of the educator in childcare services is currently a heated one in Italy. Lately, the Ministry of Education, University and Research, first in law n. 205 of 27 December 2017 (commonly known as Legge Iori) and successively with a spe-

cific decree (Dlgs. 378 of 11 May 2018) established its tasks and competences: “The professional socio-pedagogical educator and the pedagogist’s work in the educational, training and pedagogical field, in relation to any activity carried out in a formal, non-formal and informal manner, in the various phases of life and within a perspective of personal and social growth” (law n. 205 of 27 December 2017, paragraph 594, authors’ translation). Specifically, the early childhood educator prepares educational contexts, designs and implements activities aimed at developing the potential for relationship, autonomy, creativity and learning in an adequate emotional, playful and cognitive environment, ensuring equal opportunities for education, care, relationships and play, and overcoming inequalities and territorial, economic, ethnic and cultural barriers. Therefore, the role of the educator is central to the success of the process of inclusion of the child with ASD and within the G-ESDM too.

During their Bachelor degree studies, early childhood educators are expected to acquire knowledge and skills related to: holistic child development ranging from physical, psychomotor, emotional, relational, social, and cognitive development; recognition and promotion of emotional, cognitive, sensory-motor, relational, symbolic and communication skills; care, education and socialization; the different contexts of life, culture, practices and choices of care and education of families; parental support and the promotion of relationships with families; the promotion of psycho-physical well-being and the identification of risk conditions, delay, discomfort and developmental disorder; planning, organization and evaluation of contexts and educational activities for early childhood; educational methodologies in early childhood, with particular attention to the experience of play and the different modes of expression; observation, evaluation and documentation of the behavior of children in educational contexts (art. 1, legislative decree 378, 11 May 2018).

At this point, it is possible to affirm that Italian educators should acquire knowledge and skills apt to promote the inclusion of pupils with ASD with the implementation of the G-ESDM model within pre-schools.

5. Conclusions

Italy has gained prominence worldwide for its inclusive policies in education (Begeny, Martens, 2007; Giangreco, Doyle, Suter, 2012; Kanter, Damiani, Ferry, 2014; Mittler, 2000). Yet, Italian scholars in special education emphasize the need of evidence-based research aimed at examining inclusive practices and their results (Cottini, Morganti, 2015). In line with such contemporary research trends, this paper has presented the main features of the G-ESDM as a tried-and-tested approach to address the needs of preschoolers with ASD in early childhood classroom settings and its potential application in Italian preschools.

Currently, following the constitution of an international collaboration among the University of Salerno and the Early Days Autism Center (California), in collaboration with Prof. Giacomo Vivanti from A.J. Drexel Autism Institute (Drexel University, Philadelphia), a pilot study is being carried out in the Province of Salerno (Italy) to explore the feasibility of the adoption of the G-ESDM and the teach-



ers' training needs. More specifically, the objective is to identify the factors that could promote or hinder the implementation of the model and collaboratively define a training program for teachers on the founding principles and strategies of the G-ESDM.

As previously outlined, classroom and school environments are different from clinical contexts since the level of unpredictability is high. Moreover, the type of intervention and the relationship created between the educator and the child is not therapeutic. Research to date, even if carried out in educational contexts, has always envisaged the presence of therapists to conduct the activities. Hence, this research aims at involving the educators directly by providing them with the knowledge and skills necessary to be able to implement this approach with all the children in cases where pupils with ASD are present.

The Active Implementation Framework (Fixsen et al., 2005) has been adopted to guide the research process as it can be considered rooted within an ecological perspective, starting from the needs emerging within the child's micro environment, such as the teachers' training needs, and gradually moving outwards to analyze the child's exosystems and macro systems. To date, the exploration phase of the Framework has been carried out and the data analysis is underway. The results of this first phase will provide insights for the development of the training program for the teachers involved as well as the potential application of the model within Italian contexts.

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