Key challenges in addressing autism in preschool education – a case study in Slovenia

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Introduction

Policy background

Learning does not begin with compulsory schooling: it starts from birth. The EU strategic framework for Education and Training 2020 recognises Early Childhood Education and Care systems' (ECEC) potential for addressing social inclusion and economic challenges and has therefore set a benchmark to ensure that at least 95% of children aged between four and the starting age of compulsory education, participate in ECEC. According to the final report "ECEC for children from disadvantaged backgrounds", released by the EU Commission in 2012, participation in ECEC is considered "a crucial factor for socialising children into formal education". ECEC is especially beneficial for the most disadvantaged children, including those on the autism spectrum, whose gains in cognitive and socio-emotional development are higher than for neurotypical children. However, according to the report "Support for children with special educational needs" by the European Commission's DG for Employment, Social Affairs and Inclusion (2013), these children tend to be less represented in ECEC due to the lack of adapted settings. The need for inclusive education is enshrined in the UN Convention on the Rights of Persons with Disabilities (2006), which in article 24.2 states that persons with disabilities should not be excluded from the general education system, setting the challenge of allowing education systems to be adapted to all students. Therefore, improving the ECEC systems by making them

inclusive and avoiding the segregation of children with autism is an important policy objective.

What is autism?

As stated on the website of the international organization Autism Europe (2018), autism is a complex lifelong disability that is usually apparent from early childhood and can be diagnosed by appropriately qualified professionals according to international criteria for diagnosis. As scientific research has progressed, the diagnostic criteria for autism have changed as a result of a better understanding of this complex condition. Autism is a 'spectrum' condition, which means that the symptoms vary between individuals, ranging from mild to severe. Some can have significant intellectual disabilities and require a high level of support in their daily lives, while others are of average or high intelligence and require a lower level of support. Autism spectrum disorder (ASD) (APA, 2013) is a barely new concept, now meaning a disorder that consists of the previously (in DSM-IV) autistic disorder (autism), Asperger's disorder, childhood disintegrative disorder, Rett's disorder, and pervasive developmental disorder not otherwise specified. ASD is characterized by deficits in two core domains: 1) deficits in social communication and social interaction and 2) restricted repetitive patterns of behaviour, interests, and activities. Autism spectrum disorder is diagnosed only when the characteristic deficits of social communication are accompanied by excessively repetitive behaviours, restricted interests, and insistence on sameness. People on the autism spectrum can also experience other difficulties (i.e.: sensory; increased or reduced sensitivity to light, sound, colour, smell, taste or touch) or have other disabilities (Down syndrome, epilepsy, Rett syndrome or tuberous sclerosis). Autism has a strong inherited basis, although the genetics are complex. It is becoming evident that autism may result from multigene interactions or from spontaneous mutations in genes with major effects. Researchers are also exploring the interaction between genetic and environmental factors.

Although autism is not curable, research has shown that the best treatments for people with autism are early and specialised behaviour-based therapies which aim to develop skills of coping with the individual challenges they face, because they often require adaptations to be made to their living, learning and working environments The importance of early detection of the autism spectrum disorders, that can be diagnosed accurately before the age of two, (Zwaigenbaum et.al., 2015), followed by an early intervention, is increasingly recognised (Pijl et.al, 2017; Zwaigenbaum et.al., 2015).

On the website of Strokovni center za avtizem (in English: Professional Centre for Autism) (2018), it is stated that autism is steadily increasing in the population, but it is not yet known why. In Slovenia, there is no register of people with ASD, but foreign epidemiological studies estimate that the incidence of autism is 1:100, although it was once believed to be rare. Autism spectrum disorder is diagnosed four times more often in males than in females (APA, 2013).

Autism in preschools and schools: Slovenia

In Slovenia, children with autism were identified as children with special needs for the first time in the act "Zakon o usmerjanju otrok s posebnimi potrebami" (2011), which was put into action in 2013. According to national data from the Ministry of Education, Science and Sport (n.d.), pre-school children with ASD usually have additional disorders. In 2015, only two pre-school children with a "special education needs guidance order" exclusively for the autism spectrum disorder were enrolled in regular departments, and 208 of those with multiple disorders identified (out of 728 children with a special education needs guidance order). In the school year 2015/16, data shows that there were 105 pupils with ASD enrolled in regular classes in primary schools, a year later 126 and this year's school year 168. This represents 1% to 1.5% of pupils with special needs.

In Slovenia, most children with special needs, including children with ASD, attend regular departments in kindergartens and schools. Although children and pupils with ASD represent a relatively small proportion within students with special needs (Ministry of Education, Science and Sport, n.d.), due to their specific problems and proper treatments, their involvement in the educational process in kindergartens and schools is often difficult in practice. Many teachers report elevated levels of stress when working with children with emotional disturbance or students who have behavioural issues secondary to their primary disabilities (e.g. autism) (Zhang, Wang, Stegall, Losinki and Katsiyannis, 2017). However, high pedagogical quality in early childhood education and care is related to developmental outcomes in young children (Egert, Fukkink and Eckhrardt, 2018) (for instance: improved social skills, language and literacy skills, see also European Commission, 2011).

Early interventions, along with already mentioned positive effects, result in a decrease of maladaptive behaviours and symptom severity in children with ASD (Rogers and Vismara, 2008).

The project Early Attention for the Inclusion of Children with Autism Spectrum Disorders in Early Childhood Education and Care Systems (ETTECEC)

The ETTECEC project is a 2-year K2 EU project (www.ettecec.eu, 2017–2019). Its mission is to improve the Early Childhood Education and Care (ECEC) systems of the partner regions, making them inclusive, and avoiding the segregation of children with autism in "special schools", allowing them to be equally prepared to enter the education system. The project will develop and implement an innovative pedagogical approach, based on the inclusion paradigm of education, developing a didactic online course focused on children aged 0–6 (pre-school). ETTECEC will allow pre-school teachers to have the necessary knowledge and competences, to be able to include children with autism in classroom activities and will reduce disparities in learning outcomes between neurotypical children and autistic children.

Its fundamental philosophy could also make it equally relevant to other stages of education where it could be successfully applied (considering the different needs and features of their learners). The course will include different modules based on specific situations that could happen in the classroom.

The project will deliver a pilot of the training for 18 pre-school teachers from 5 schools (from Ljubljana, Prague and the Canary Islands), who will then use their newly acquired competences in a classroom setting. A total of 270 children will therefore be involved in inclusive education methods.

The project addresses the following gaps:

- Lack of specific training for pre-school teachers to deal with, care and work with autistic children. The project aims to be an adequate and innovative tool to improve the ECEC systems of the partner regions, making them inclusive and avoiding the segregation of autistic children in "special schools" and allowing them to be equally prepared to enter the education system.
- Lack of or little availability of programmes or materials in many areas within Europe for training pre-school teachers to understand the condition, and to work effectively with autistic people and other professionals.
- The presence of autism within the professional framework can impact the professional and/or educational achievement, employment opportunities and social inclusion of professionals and individuals with autism themselves.

- This is an important project as there are no such models or materials currently available. Furthermore, the negative impact of disability in general, and autism in particular, affects key areas of concern such as social inclusion, equal opportunities, educational achievement, employment and quality of life.
- Foreseeing cultural diversity and the educational, economic and social inequalities through the different Member States of the European Union to adapt the programmes and the materials resulting from the project to be used effectively in each country.
- Forecasting the low impact of the project in those European countries where the project has not been put in place.
- EU citizens' lack of knowledge and understanding about the importance of providing specific training on the autism spectrum for preschool teachers.

The ETTECEC partnership brings together academics and professionals from various education centres and autism organisations across Europe. Those involved come from various backgrounds – both national and cultural – and have a wide set of skills. The project coordinator, *Asociación Mi Hijo y Yo* from Spain will work closely with all the other partners: *Svetovalnica za avtizem* and the Educational Research Institute (*Pedagoški inštitut*) from Slovenia, the *Fakultní mateřská* škola *Sluníčko pod střechou při Pedf UK (Mateřská* škola*)* and *Schola Empirica* from the Czech Republic and Autism-Europe from Belgium.

The present study

The first step in the process was identification of real-life situations. These situations were obtained through observations in the classroom and structured interviews with the relevant stakeholders (pre-school teachers, parents, children, experts on this field etc.) in three participating countries (Spain, Slovenia, and the Czech Republic). One of the aims of the present study is to identify real-life situations and key challenges teachers in pre-schools are faced with in Slovenia. In this article, we present findings based on observations and interviews in Slovenia and propose which competences are needed for the teachers to be better equipped to address them. Obtained real-life situations will, later on, serve as a basis for the development of the training content.

Methodology

Participants

Two preschools in Slovenia, where a researcher had prior contact and established cooperation before the project and that were known to have children with ASD, were contacted via telephone and invited to participate in the project. Teachers and parents were asked for their voluntary participation and the participation of their children. In each preschool, two groups (i.e. four groups altogether) participated. In each group, a whole-day observational visit took place. From each group, teachers and assistant teachers were interviewed (N = 8, female, aged between 30 and 55 years, years of experience from 3 to 35 years, two hold degree in preschool education, one finished high school, one is a student of inclusive education). Moreover, one child from each group with ASD diagnosis or suspicion of ASD (N = 4, boys, aged 3,5 years, 4,5 years, 5 years and 5,5 years) as well as their parents (N = 4, mothers) were interviewed.

Instruments

In the project partnership observational scheme and questionnaires (for parents, children, and teachers), were developed. The scheme contained the following categories: the physical context, the temporal context, the emotional context. The physical context referred to everything that is palpable, such as the form of the physical environment of the preschool, which includes all possible spaces where children move as well as the environment where the centre is located (e.g. how is the physical environment of the preschool/classroom/common spaces – light, presence of plants, animals, trees etc.). The temporal context referred to how do children spend time in the preschool (e.g. How are the activities scheduled?; Are there specific rules to be followed?). The emotional context referred to the emotional life of a child in the preschool (e.g. Are children able to express themselves creatively – is artwork exposed in the classroom, are there singing / musical activities?; Are children able to express their feelings and emotions?; How are children taught social competences?).

In addition, a set of questions for structured interviews with teachers, parents, and children were developed. Some examples of questions: (1) for teachers: Do you have children with behavioural difficulties in your class? Have you encountered any specific situation related to a child with the autism spectrum? Do you have special strategies/methods of work with children with autism spectrum disorders? Do you cooperate with parents in dealing with autism spectrum disorders of children? What kind of support would you need to help you in your profession? (2) for

parents: Does your child speak about preschool at home? In what terms? Do you turn to teachers when you seek advice regarding the behaviour of your child? (3) for children: Do you like your preschool/your class? What do you like? What don't you like? Who are your friends you play with in preschool?

Procedure

In the 1st preschool, we had 2 days of observations, which started with interviews with mothers (30 minutes) and continued with observations in and outside of the classroom (about 4 hours). Two researchers took notes in the observational scheme. Interviews with the children (10 minutes) were done inside this time frame also, as we tried to engage them in conversation through play. We finished the days with interviews with the teacher and her assistant teacher (one per researcher) (30 minutes). Collected data was then compared by researchers and merged into one report.

In the 2nd preschool, we also had 2 days of observations (about 4 hours each day) that were followed by teacher's interviews (about 30 minutes) and later in the afternoon by interviewing the two mothers by phone (about 20 minutes). One researcher took notes in the observational scheme. Interviews with children were done during the observation time. Collected data was later presented in a report.

Results

Preschool 1

Observations took place in two groups with the following characteristics:

Table 1

Age of children	4–5 years	2–4 years
Number of children	19/22 children present	17 children present
Number of adults	4 adults (2 teachers and 2 extra adults for special needs children)	2 teachers

Observations

Physical context. The preschool is located in the centre of the capital city Ljubljana. Physical context is in accordance with national standards. It has a large fenced backyard with several playground "stations" (swings, slides, sandbox ...), sitting areas, grass areas, trees, access to water. There are only animals naturally present. The building has three storeys with lots of natural light. The gates are secured with child-proof locks, so children cannot leave the preschool on their own. Common spaces are spacious with

lots of natural light. There are potted plants and artwork of children as well as toys, books, and piano. Each group has a changing area (wardrobe) with an assigned spot for each child. The classrooms of the two groups are relatively small, busy with furniture. There is a lot of natural light, but artificial lights are also on. On the wall, there are different materials: schedule, birthdays, calendar. Play corners are labelled with pictures and written signs. Children have free access to materials and toys (at low height). Children's artwork and info boards for parents are exhibited in the playroom or in front of it. In both classrooms' children have a quiet spot if they need it.

Temporal context. In the groups there is a typical order in which activities take place, but the exact timing and duration is not specified: children coming, breakfast – morning circle – structured (educational) activity followed by free play (gradual transitions deepening on child interest) – fruit snack – outdoors: structured activity or free play (playground, walk) – lunch – rest/sleep – snack – outdoors, children leaving. Children move in and out of the classroom several times during the day. The structured activity is based on the theme of the weeks or month, selected and prepared by teachers (children's interests are taken into account). Teachers prepare annually and weekly plans of their work in the group and goals they plan to achieve with these activities. Activities are planned in accordance with national document binding for all public preschools Kindergarten Curriculum. There are six activity areas: locomotion, language, art, society, nature, and mathematics. Children are expected to follow certain rules (e.g. stand in line before leaving the room, washing hands before meals, not speak loudly).

Art is an integral part of the daily activities. Children mostly draw but also sing and dance. However, these activities are primarily not intended for children to express themselves, but to reach the learning objectives from the Curriculum.

Emotional context. Emotions or feelings are not visually exposed in the classroom nor is there talk on this topic unless a problematic situation occurs. Children are taught social competence mostly via instructions on how to behave – regulation of behaviour (e.g. do not pull toys from each other, be quiet when another is talking). In one group, teachers asked a child to take another's child perspective (e.g. how would you feel in another's child place). In one group teacher encouraged children to play with each other and communicate in a respectful way, which she also was a role model of. In the other group, there is little two-way communication between children and teachers (teachers mostly instruct).

Interviews

Teachers. All four teachers (two teachers and two assistant teachers) were anxious to participate in the interview but soon became relaxed and talkative. All teachers feel satisfaction and find their work meaningful despite the difficulties. Three teachers express the need for additional seminars, training on the topic of ASD with special emphasis on strategies on dealing with children on ASD: e.g. dealing with transitions between activities, following the rules, helping them establish good interaction with peers, maintaining their attention to things that are not very interesting for them, helping them verbally express themselves, helping them keep connection to their thoughts, supporting them upon returning to preschool after longer breaks, handling resistance and aggression with children, adjusting the planned educational activities to reach the same goals as for other children. The question is also how to recognize signs of ASD. One teacher emphasized the importance of the relationship – at first, I gain their trust (by cuddling, being fair, helping when they need me) – and the importance of talking to other children about why some things are different for some children. Teachers receive the most support from the special pedagogue who also prepares individualized programmes for each child with special needs. All teachers report good cooperation with parents and support from other teachers. All teachers mention it is a struggle to accommodate many different special needs, pay attention to all the individual needs and strategies.

Children. Both children were verbal, but with speech problems. Their answers were very short (telegraphic) and some questions were not answered. One child immediately made contact and he responded to our interaction. As soon as we started asking questions, he withdrew. The teacher asked questions for us. The second child at first did not respond to us trying to make contact; later when we were alone in the classroom (no other children or teachers) he responded to our questions while he was drawing. After this, he also initiated interaction with us himself. Based on observations we saw he did not play or interact with other children in the classroom; he played with other boys outside in the playground.

Parents. Both parents report their child talks about preschool at home and has friends at preschool. Both parents report they have professional support also outside of the preschool (e.g. psychologist, speech therapist). Both parents report they have confidence in teachers, but all report that special pedagogue at preschool is the key person for them and for the teachers. They ask the special pedagogue for help. Parents say they have everything they need from the preschool.

Preschool 2

Observations took place in two groups with the following characteristics:

Table 2

Age of children	1–2 years	4–6 years
Number of children	14 children	24 children
Number of adults	2 (teacher and assistant teacher)	2 (teacher and assistant teacher)

Observations

Physical context. Preschool has a large backyard and large front yard with playgrounds. The yards are fenced and double secured (children cannot get to the street by themselves). There are a lot of little sitting areas as well as shade all around the yards. The equipment on the play areas (swings, slides, 3 large sandboxes with roof) is modern and within legal national safety standards. Most of the playrooms on the ground level have a smaller fenced playground (within the bigger yards) to which children can access directly from the playroom. In the back of the building, there is a stream and a forest. There are no animals but the ones naturally present (birds, bugs ...). The individual rooms are well equipped, some more spacious than others – within the national standards, all have good natural lighting. Furniture, toys and other equipment in the rooms are adapted according to group ages.

Temporal context. In the group with 1 to 2-year-olds, teachers focus on feeding the children, changing diapers and taking care of general comfort of the children. A lot of children cry and are unable to communicate their needs at this age. There are some guided activities in smaller groups focusing on art and music, they play outside or go for a walk daily. In the group with 4 to 6-year-olds most of the children are around 6 years old and will start to attend school in September. Only 2 children are under 5, and two more will go to school a year later due to maturity issues. The daily schedule in this group is a flexible routine. A lot of time is devoted to their weekly theme, free play, and outdoor play.

Emotional context. In the older group, teachers promote empathy among children; some of their time is devoted for building social competences of children – in different everyday situations. Emotional and social rules are not thought systematically nor visually enhanced – rather when a situation occurs. In the 1-2 age group, a lot of time is spent to comfort the children and take care of their primary needs. Emotional competences and social rules are not taught systematically.

Interviews

Teachers. All 4 interviewed teachers were not very talkative. They answered they have a good support in their co-workers, principal and preschool psychologist. One of the teachers would like to cooperate with the developmental doctor, where the child with ASD is usually monitored. They all said they are not trained in recognizing signs of ASD or how to help a child with ASD but would like to attend a course with these topics. They do not use any special methods while working with children with ASD, they try to adapt their daily schedule and activities in the way all children can participate.

Parents. Parents of two children with ASD were interviewed. Both agreed teachers are not professionals when it comes to ASD. Teachers would need a professional support and an assistant who is trained in ASD. Both mothers said they have some support from other professionals outside the preschool but have to find the information and pay for the service. One mother said she would expect professionals to work together to maximize the outcome.

Children. In preschool 2 there are several children with ASD. Most of them are nonverbal. Teachers chose two who have some language present, but both are echolalic. Interviews were not carried out in full, most questions remained unanswered or we got an echolalic response.

Interpretation and recommendations

Based on the observations and interviews the following strengths and challenges were observed in the case study of two Slovenian preschools. Recognized strengths are:

- Physical context (safe, light) and temporal contexts (routine) are appropriate.
- Teachers are willing to learn and have support from co-workers, especially social pedagogue.
- Some existing knowledge about signs of ASD and strategies of teaching child with ASD (especially pictograms and in regard to food sensory issues).
- Good cooperation with parents.
- Some understanding of the importance of relationships with a child.

On the other hand, identified recognized challenges (needed competences) were:

- Dealing with child acting-out: All teacher mentions they need competence on how to deal with acute situations of child acting-out.

- Although pictograms are the most common tools teacher use with ASD children, the in-depth understanding of how to use it consistently and adapt it to the individual child is quite limited.
- Recognizing signs of ASD: As recognized by the observers, some teachers recognize the signs of ASD, while others do not. It seems that for some teacher ASD's prime sign is sensory hypersensitivity rather than difficulties in social interactions.
- Broadening the pools of strategies needed to deal with ASD: As recognized by observers, some teachers use special strategies of teaching a child with ASD, while others say they 'treat all children in the same way'. A lot of attention in regard to strategies is devoted to pictograms (schedules) or dealing with sensory issues in regard to food. A larger variety of strategies is needed (see above for specific situations, e.g. handling resistance and aggression with children, adjusting the planned educational activities to reach the same goals as for other children) alongside with teacher awareness that these are just tools, options available to them – these are not recipes. The teacher needs to learn to choose adequate strategies from this pool, which can/should be adapted to individual children.
- Expanding social and emotional learning of children and teachers in the classroom: As recognized by the observers, very little attention is given to the emotional life of children (e.g. acknowledging, naming/identifying, discussing emotions ...). More emphasis on this is needed. In regard to social competences, the learning should go beyond regulation of own behaviour, also to self-awareness and social awareness. Build a more personal relationship with children.
- Supporting children's speech/verbal development by interacting with a child frequently, inviting a child to verbally express often (in 1:1 interaction if group work is a problem). There is a need to teach these children an alternative communication or to build on their speech and understanding.
- Attention to the amount and type of triggering stimuli (for some children it can noise, for some crowd, for some smell), being aware of and recognizing potential triggering situations and act preventively/timely; develop possible options of what can a child do (or teacher) in such situations.
- Self-care for teachers: teachers report being overwhelmed with many special needs (difficult to know everything about every disorder, know how to adjust). Learning how to recognize and overcome own resistance in working with children on ASD (which is natural because sometimes these children need a lot of attention

and adjustments), learning how to take a break before getting overwhelmed is crucial.

Conclusion

Based on the observations we can conclude, that observed teachers were generally not trained to recognize the signs of autism or how to help or teach a child with ASD. In one preschool, more use of special strategies was observed, and some teachers possess the necessary knowledge and competences, while in other cases no special strategies or methods are used with these children. However, all teachers feel overwhelmed with many different special needs that they need to attend to. Thus, training of these competences in teachers is warranted. The project ETTECEC will develop needs-based on-line training to address the issues recognized in this study. Some guidelines for teacher training are proposed here:

1. The teachers are exposed to the content of a module (self-learning).
2. Teachers implement what was learned to their practice.
3. Teachers capture their practice on video.
4. The teachers undergo a supervision and video analysis with the trainer after implementing each module into their practice.

After the development and implementation of the training in the participating preschools, the training will be disseminated beyond the teachers and preschools included in the project. This will further enhance the impact of the project and give feedback about the generalizability of the findings in the project. This can support the inclusion of the topic of autism and working with children with ASD in continuous teacher education for preschool teachers from around Slovenia.

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