Review

Fostering the Social Development of Children with Special Educational Needs or Disabilities (SEND) through Dialogue and Interaction: A Literature Review

Aitana Fernandez-Villardon 1, Pilar Alvarez 2,*, Leire Ugalde 3 and Itxaso Tellado 4

1 Faculty of Psychology and Education, University of Deusto, 48007 Bilbo, Bizkaia, Spain; aitana.fernandez@deusto.es
2 Faculty of Educational Sciences and Psychology, Rovira i Virgili University, 43003 Tarragona, Spain
3 Faculty of Education, Universidad de Pais Vasco, 20007 Donostia-San Sebastian, Spain; leire.ugalde@ehu.eus
4 Faculty of Education, University of Vic, 08500 Vic, Spain; itxaso.tellado@uvic.cat
* Correspondence: pilar.alvarez@urv.cat; Tel.: +34-977-558-678

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Abstract: The United Nations’ Sustainable Development Goal 4 stresses the importance of offering all students an inclusive, quality education, so that they can develop necessary life skills, including academic and social skills. Students with special educational needs and/or disabilities (SEND) not only have greater difficulties in their academic development, but they also have some social development limitations. It is therefore necessary to identify which strategies are effective in helping these students develop social skills. Previous research has noted that dialogical learning environments can contribute to promoting inclusion. This paper provides a literature review of interventions, based on social interaction and their impact on the social skills of students with disabilities. A literature search was performed of scientific databases (Web of Science, SCOPUS, PsycINFO and ERIC) to identify research that used dialogue and interaction to promote the development of the social skills of these students. Twenty-nine studies were selected that yielded improved results in the increase and quality of interactions and the promotion of social behaviours, such as initiations, participation, collaboration, social connection, self-regulation and self-image. Based on these results, it can be concluded that interaction-based interventions with an inclusive approach nurture the social skills of students with disabilities, in line with previous research.

Keywords: school-based interventions; interaction; dialogue; social competencies; disability

1. Introduction

Improving the educational experience of students with disabilities and/or special educational needs or disabilities (SEND) is a key challenge today. The United Nations’ (UN) Sustainable Development Goal 4 (United Nations 2015) highlights the need for inclusive, quality education for all, including students with disabilities. In order for this objective to be fully met, the specific situation of students with disabilities needs to be considered. For this, it is necessary to approach the situation of children and adolescents with SEND, and identify which strategies are effective for their optimal development.

According to the International Classification of Functioning, Disability and Health (World Health Organization 2001), disability refers to having difficulties in any area of human functioning, such as impairments in body function or structure alteration, activity limitations or restrictions to participation in a life situation. The current conception of disability is based on a biopsychosocial model that is used to assess medical, personal and contextual aspects (World Health Organization 2011). From a...
social perspective, disability is understood as being a result of the interaction between people with disabilities and behavioural and environmental barriers that hinder their full and effective participation in society on equal terms with the rest of society (Szmukler et al. 2014). This conception is based on the need to address those barriers that prevent people with disabilities from having greater social participation in everyday life.

The school is the main setting where SEND students’ development occurs, and it plays a crucial role in their early years. Therefore, schools must provide the necessary education in the skills required to handle everyday life in society. In addition, as reflected in the Salamanca Statement and the Framework for Action on Special Educational Needs (UNESCO 1994), there is a widespread consensus on the need to promote an inclusive education to further advance the right to education of students with SEND.

Traditionally, the needs of students with disabilities were considered to be better met in special settings adapted to their abilities (Horn et al. 2019). However, it has been found that educational systems that advocate special education classrooms generally reduce the expectations and probabilities of school success for students with disabilities (Flecha 2015). It has also been shown that the segregation of student groups (Fisher et al. 2002), including students with disabilities, diminishes their opportunities for learning and social interaction. This has negative consequences, such as low expectations regarding one’s own abilities, decreased self-confidence and self-esteem and poorer academic performance (Fisher et al. 2002).

Thus, the literature has noted that inclusive education is a means of providing better opportunities for students with disabilities or SEND (Peetsma et al. 2001). This approach emphasises the importance of educating SEND students in conventional classes, to help diverse students learn, while working on group membership (Ainscow 1994; Meijer et al. 2003; Echeita and Navarro 2014). In this way, inclusion improves educational systems, making them more equitable (Arnesen et al. 2007; Vlachou 2004). Inclusion has been shown to encourage the acquisition of academic skills (Dessemontet et al. 2012), and to improve the educational outcomes (Mathisen 2013; Nahmias et al. 2014; Carter et al. 2017) and the academic commitment (Lane et al. 2007; Mortier et al. 2009) of students with disabilities. In addition to improving academic aspects, inclusion has also been found to be related to positive impacts on the social development of this group of these students (Carlberg and Kavale 1980; Peetsma et al. 2001), since inclusive environments support and promote their social skills and acceptance (Meadan and Monda-Amaya 2008). Students with special needs also feel less isolated and lonely in inclusive spaces (Most et al. 2012).

The improvements reported have identified inclusive environments as natural, unrestricted learning environments where children without disabilities act as role models for their peers with disabilities, encouraging social interactions between peers (Draper et al. 2019). It has been demonstrated that interaction and dialogue play a key role, as they favour social cohesion and learning. The creation and maintenance of an inclusive environment is a prerequisite for interactions between students with and without disabilities to emerge (Carter et al. 2008; Katz et al. 2002). It was Vygotsky (1979) who first stressed the importance of dialogue and interactions in the development of children with and without disabilities. In dialogical learning environments, interactions and dialogue are facilitators for the inclusion of all students (Ni Bhroin 2013). The promotion of social interactions and dialogue has also been identified as having an important impact on cognitive development (Howes et al. 2008), on language acquisition (Howes et al. 2008; Purcell-Gates et al. 2011) and on children’s learning and social behaviour (García-Carrión and Villardón-Gallego 2016). Furthermore, fomenting egalitarian interactions among diverse student groups helps children with disabilities to participate more actively in classroom dynamics (Rajala et al. 2012).

Educational interventions with students with disabilities have been mainly aimed at improving academic deficits (Smogorzewska and Szumski 2017). However, the development of social skills is also a key aspect for the academic and personal success of these students. Students with disabilities have difficulties in the social domain (Gresham et al. 2001; Szumski et al. 2016) and in their interpersonal
relationships (Kavale and Forness 1996; More 2008). These difficulties are manifested when establishing and maintaining lasting, quality relationships with peers (Carter et al. 2005). These limitations do not only depend on the type and degree of disability, but also on the child’s interaction with their environment (Espelage et al. 2016).

These difficulties in social functioning are characterised by a poor regulation of emotions, a lack of understanding of other people’s behaviours and intentions, communication limitations, and a reduced ability to notice problems in interactions with other people (Parish-Morris et al. 2007). Furthermore, low social development can cause peer victimisation (Rose et al. 2011), which often involves diminished academic performance (Weissberg et al. 2015). Observational studies (Williamson et al. 2006) point to young people with severe disabilities being among the most socially isolated students in schools, something that can have a profound impact on their well-being and quality of life (McIntyre et al. 2004). For this reason, the environment in which the child develops is important when acquiring social skills (Smogorzewska and Szumski 2017). In addition, actions that improve social skills have been shown to reduce behavioural problems, such as aggression (Weissberg et al. 2015), and prosocial behaviour, have been found to be related to both academic and social positive development (Wentzel 2015). The school is therefore an ideal environment to implement interventions that promote positive relationships and interactions, with a view to offering all students tools for their favourable social, academic and emotional development (Villardón-Gallego et al. 2018).

In order to take steps forward to enhance the social development of students with SEND, given the potential of educational interventions based on dialogue and interaction, it is necessary to explore what type of interventions are effective in promoting these children’s social skills (Weissberg et al. 2015) as a mechanism to promote inclusion. A literature review was carried out, which focused on interaction-based interventions and their effects on the social development of students with disabilities. The literature search process will now be described, as well as the main results obtained in relation to interventions based on dialogue and interactions.

2. Materials and Methods

The study consisted of a review of the scientific literature on the impact that educational interventions based on dialogue and interaction has on promoting SEND students’ social skills. A literature review is a systematic, explicit and reproducible design for identifying, evaluating and interpreting the existing body of recorded documents (Fink 2019). A protocol was designed, which specified the process to be followed. First, the main databases in the areas of Psychology and Education were selected: Web of Science (WoS), SCOPUS, ERIC and PsycINFO. These databases were selected for being the primary scientific databases in the field of educational sciences. A series of keywords were then selected, based on the following categories: effects, target, intervention and population/context (Table 1), and for being the most commonly used terms in the field of education. All possible combinations of search terms were used, so that a term for each block was always included, leading to a total of 540 searches. All the combinations used the Boolean connector/nexus AND to maximise the accuracy of these searches. The search time frame was set between 2003 and 2018. The search was also filtered by type of document—scientific article—and area of knowledge—social sciences—in the case of Web of Science. This first search phase resulted in 292 articles.

Next, a series of inclusion and exclusion criteria were established (Table 2), with the aim of examining research on educational interventions based on dialogue and/or interaction, and selecting those that provided evidence of improvement in the social skills of students with and without disabilities. The review of articles according to the criteria of inclusion and exclusion yielded 151 articles.

Based on this shortlist, 83 articles were selected for in-depth analysis by reading their abstracts. This led to a final selection of 29 articles that fulfilled the inclusion criteria.
Table 1. Keywords.

<table>
<thead>
<tr>
<th>Effects</th>
<th>Target</th>
<th>Intervention</th>
<th>Population/Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusion</td>
<td>Disabilities</td>
<td>Interaction</td>
<td>Children</td>
</tr>
<tr>
<td>Social development</td>
<td>Special needs</td>
<td>Interactive learning environment</td>
<td>Student</td>
</tr>
<tr>
<td>or skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special educational needs</td>
<td></td>
<td>Interactive learning</td>
<td>Classroom</td>
</tr>
<tr>
<td>Children or students</td>
<td></td>
<td>Dialogue</td>
<td>School</td>
</tr>
<tr>
<td>Teachers</td>
<td></td>
<td>Dialogic interaction</td>
<td>Pupil</td>
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<td></td>
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<td>Dialogic teaching and</td>
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<td></td>
<td></td>
<td>learning</td>
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</tbody>
</table>

Table 2. Inclusion and exclusion criteria.

<table>
<thead>
<tr>
<th>Inclusion Criteria</th>
<th>Exclusion Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Educational intervention for students with SEND in school settings.</td>
<td>1. Participants 18 years of age and older</td>
</tr>
<tr>
<td>2. Educational intervention based on interaction/dialogue with students with SEND in school settings.</td>
<td>2. Duplicate citations</td>
</tr>
<tr>
<td>3. Evidence of improvement in attitudes towards diversity and/or social development.</td>
<td>3. Out-of-school interventions</td>
</tr>
<tr>
<td></td>
<td>4. Interventions not related to disabilities/special educational needs</td>
</tr>
</tbody>
</table>

3. Results

The results corresponding to the 29 studies finally selected are presented below. Table 3 shows a summary of the selected studies organised into four main groups, based on the main characteristic of the interventions analysed, indicating:

- The country where the research was carried out;
- The sample of participating students, including the number of participants, the type of SEND and their age;
- The type of research design;
- The reported educational programme;
- The main findings from the study.

All the selected articles provided evidence of improvement in the social development of SEND children through interaction-based educational interventions. In general, the articles reviewed reported increased quality of interactions, greater acceptance by peers, collaboration and participation and better self-regulation and social support, generally suggesting an improvement in the student’s social skills. The results of the review have been organised around the four types of interventions analysed and are outlined below. The impacts derived from each of them are noted.
Table 3. Summary of articles from the systematic review.

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Author (Year)</th>
<th>Country</th>
<th>Sample (Age)</th>
<th>Research Design</th>
<th>Educational Programme</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer support to promote the social participation of all students</td>
<td>André et al. (2013)</td>
<td>France</td>
<td>36 children with severe learning difficulties (11–12)</td>
<td>Quantitative</td>
<td>Cooperative learning structure</td>
<td>Helping behaviors of children with disabilities dependant on risk-taking</td>
</tr>
<tr>
<td></td>
<td>Batchelor and Taylor (2005)</td>
<td>Australia</td>
<td>1 child with a moderate developmental disability (4)</td>
<td>Quantitative</td>
<td>‘‘Stay, Play and Talk’’ (peer-mediated strategy)</td>
<td>Increase of peer initiations and acceptance</td>
</tr>
<tr>
<td></td>
<td>Chung and Douglas (2015)</td>
<td>United States of America (USA)</td>
<td>3 students with ASD (10–12)</td>
<td>Quantitative and Qualitative</td>
<td>Intervention package on interactions</td>
<td>Increase reciprocal interactions and use of SDG (speech-generating devices)</td>
</tr>
<tr>
<td></td>
<td>Gena (2006)</td>
<td>Greece</td>
<td>4 students with ASD (3–4)</td>
<td>Quantitative</td>
<td>Behaviour analytic intervention (in dyads or small groups)</td>
<td>Increment of initiations</td>
</tr>
<tr>
<td></td>
<td>Harper et al. (2008)</td>
<td>USA</td>
<td>2 students with ASD (8–9)</td>
<td>Quantitative and qualitative</td>
<td>Motivational techniques of Pivotal Response Training through peer-mediated practice</td>
<td>Improvement of social peer interactions, social contact and initiations to play</td>
</tr>
<tr>
<td></td>
<td>Hundert et al. (2014)</td>
<td>Canada</td>
<td>3 children with ASD (4–)</td>
<td>Quantitative</td>
<td>Social script training</td>
<td>Increase of peer interaction</td>
</tr>
<tr>
<td></td>
<td>Kalyva and Avramidis (2005)</td>
<td>UK</td>
<td>5 preschool boys with ASD (3–4)</td>
<td>Quantitative</td>
<td>‘‘Circle of friends’’</td>
<td>Successful responses and initiations of children with autism</td>
</tr>
<tr>
<td></td>
<td>Kohler et al. (2007)</td>
<td>USA</td>
<td>1 child with ASD (4)</td>
<td>Quantitative</td>
<td>Buddy skills package</td>
<td>Increased of social interaction and longer exchanges</td>
</tr>
<tr>
<td></td>
<td>MacKay et al. (2007)</td>
<td>UK</td>
<td>46 children with ASD (6–16)</td>
<td>Quantitative</td>
<td>Promote key areas of social interactions</td>
<td>Improvement of social skills</td>
</tr>
<tr>
<td></td>
<td>Mason et al. (2014)</td>
<td>USA</td>
<td>3 children with ASD (6–8)</td>
<td>Quantitative</td>
<td>Social skills instructional program combined with peer networks</td>
<td>Increment in the frequency of communicative acts</td>
</tr>
<tr>
<td></td>
<td>McCurdy and Cole (2014)</td>
<td>USA</td>
<td>3 boys with ASD (7–11)</td>
<td>Quantitative</td>
<td>Peer support intervention</td>
<td>Reduce off-task behavior</td>
</tr>
<tr>
<td></td>
<td>Nelson et al. (2007)</td>
<td>USA</td>
<td>4 children with ASD (4)</td>
<td>Quantitative</td>
<td>Keys to Play (peer mediated teaching strategy)</td>
<td>Increase of unprompted initiations and interest of playing</td>
</tr>
<tr>
<td></td>
<td>Owen-DeSchryver et al. (2008)</td>
<td>USA</td>
<td>5 children with selective mutism (7–10)</td>
<td>Quantitative</td>
<td>Peer training intervention</td>
<td>Increment of interaction and responses</td>
</tr>
<tr>
<td></td>
<td>Schmidt and Stichter (2012)</td>
<td>USA</td>
<td>3 children with ASD (13)</td>
<td>Quantitative</td>
<td>Peer-mediated intervention (peer training)</td>
<td>Increase of social interaction</td>
</tr>
<tr>
<td></td>
<td>Weiner (2005)</td>
<td>USA</td>
<td>3 children with moderate to severe disabilities (6–12)</td>
<td>Quantitative</td>
<td>Peer training on peers’ requests for repair and target students’ unintelligible responses</td>
<td>Increase in requests for repair in response to unintelligible responses and in repair responses of those students</td>
</tr>
</tbody>
</table>
### Table 3. Cont.

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Author (Year)</th>
<th>Country</th>
<th>Sample (Age)</th>
<th>Research Design</th>
<th>Educational Programme</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social skill training in academic instruction</strong></td>
<td><strong>Hong et al. (2017)</strong></td>
<td>USA</td>
<td>2 children with and without disabilities (4–5)</td>
<td>Qualitative and quantitative</td>
<td>Reggio Emilia approach</td>
<td>Increased interest, inclusion, friendship, and empathy toward both children with special needs</td>
</tr>
<tr>
<td></td>
<td><strong>Lane et al. (2015)</strong></td>
<td>USA</td>
<td>7 children at high risk for antisocial behavior (4-6)</td>
<td>Quantitative</td>
<td>Small Group Instruction (Constant Time Delay procedure)</td>
<td>Acquisition of social information and decrease of disruptive behavior</td>
</tr>
<tr>
<td></td>
<td><strong>Schnitzer et al. (2007)</strong></td>
<td>Belgium</td>
<td>48 students with learning disability and behavior problems (11–14)</td>
<td>Quantitative and qualitative</td>
<td>Feuerstein’s Instrumental Enrichment (FIE)</td>
<td>Beneficial effect on social relations and self-regulation</td>
</tr>
<tr>
<td></td>
<td><strong>Schoger (2006)</strong></td>
<td>USA</td>
<td>3 students with special needs (6-10)</td>
<td>Qualitative</td>
<td>Reverse Inclusion Programme</td>
<td>Improvements in social interaction behaviors</td>
</tr>
<tr>
<td></td>
<td><strong>Stagnitti et al. (2012)</strong></td>
<td>Australia</td>
<td>19 children attending a specialist school (5-6)</td>
<td>Quantitative</td>
<td>‘Learn to play’ program</td>
<td>Increase in social interaction and play ability</td>
</tr>
<tr>
<td></td>
<td><strong>Stanton-Chapman and Brown (2015a)</strong></td>
<td>USA</td>
<td>3 children with disabilities (3)</td>
<td>Quantitative</td>
<td>Playthemes accompanied by storybook</td>
<td>Increase parallel play behaviors</td>
</tr>
<tr>
<td></td>
<td><strong>Stanton-Chapman and Brown (2015b)</strong></td>
<td>USA</td>
<td>6 children with disabilities (3)</td>
<td>Quantitative</td>
<td>Playthemes accompanied by storybook</td>
<td>Increase of commenting behaviors, requests for verbal behavior, requests for non-verbal behavior, and non-verbal requests</td>
</tr>
<tr>
<td></td>
<td><strong>Stanton-Chapman et al. (2012)</strong></td>
<td>USA</td>
<td>8 children with language delays and/or poor social skills (3–5)</td>
<td>Quantitative</td>
<td>Play themes accompanied by storybook</td>
<td>Increase of initiations with immediate peer response</td>
</tr>
<tr>
<td></td>
<td><strong>Tanta et al. (2005)</strong></td>
<td>USA</td>
<td>5 children with developmental play delays (3-6)</td>
<td>Quantitative</td>
<td>Peer-play (dyads of partners of different levels)</td>
<td>Increment in initiations and responses</td>
</tr>
<tr>
<td></td>
<td><strong>Harper et al. (2008)</strong> *</td>
<td>USA</td>
<td>2 students with ASD (8-9)</td>
<td>Qualitative and qualitative</td>
<td>Motivational techniques of Pivotal Response Training through peer-mediated practice</td>
<td>Improvement of social peer interactions, social contact and initiations to play</td>
</tr>
<tr>
<td></td>
<td><strong>Hundert et al. (2014)</strong> *</td>
<td>Canada</td>
<td>3 children with ASD (4-5)</td>
<td>Quantitative</td>
<td>Social script training</td>
<td>Increase of peer interaction</td>
</tr>
<tr>
<td></td>
<td><strong>Mason et al. (2014)</strong> *</td>
<td>USA</td>
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<td>Quantitative</td>
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<td>Increment in the frequency of communicative acts</td>
</tr>
<tr>
<td></td>
<td><strong>Nelson et al. (2007)</strong> *</td>
<td>USA</td>
<td>4 children with ASD (4)</td>
<td>Quantitative</td>
<td>Keys to Play (peer mediated teaching strategy)</td>
<td>Increase of unprompted initiations and interest of playing</td>
</tr>
</tbody>
</table>
Table 3. Cont.

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<th>Author (Year)</th>
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<th>Research Design</th>
<th>Educational Programme</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aalsvoort and Gossé</td>
<td>Netherlands</td>
<td>78 preschoolers with intellectual impairments (4–7)</td>
<td>Quantitative</td>
<td>Video-recording and counseling</td>
<td>Elicit competent behavior and other students’ support</td>
</tr>
<tr>
<td></td>
<td>(2007)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alzyoudi et al. (2015)</td>
<td>United Arab Emirates (UAE)</td>
<td>5 children with ASD (5–7)</td>
<td>Quantitative</td>
<td>Video-modelling</td>
<td>Improvement in social skills</td>
</tr>
<tr>
<td></td>
<td>Hetzroni and Banin</td>
<td>Israel</td>
<td>5 middle-school children with mild IDD (11–15)</td>
<td>Quantitative</td>
<td>Observation of video-clips of adequate behaviors, discussion and simulations (in small groups)</td>
<td>Increment of the frequency of usage of social behaviours</td>
</tr>
<tr>
<td></td>
<td>(2016)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kim (2016)</td>
<td>USA</td>
<td>3 children with ASD (6–9)</td>
<td>Quantitative</td>
<td>Video-modelling</td>
<td>Generalized use of acquired scripted verbalizations and/or play actions</td>
</tr>
<tr>
<td></td>
<td>Lau et al. (2005)</td>
<td>USA</td>
<td>3 preschool children with and without disabilities (3–6)</td>
<td>Quantitative</td>
<td>Computer intervention with and without teacher facilitation</td>
<td>Increase of positive interactions, initiations and responses</td>
</tr>
</tbody>
</table>

* Studies also included within the category “Peer support to promote the social participation of all students.”
3.1. Peer Support to Promote the Social Participation of All Students

The peer group plays a key role in interventions aimed at improving SEND students’ social skills. A total of 15 studies provided improved results derived from taking these steps. The main characteristic of peer-mediated interventions was the active involvement of peers without SEND in promoting the development of social skills and the participation of their fellow students.

In general terms, the positive impact of peer-mediated interventions on the increased interactions and initiations of SEND students (Batchelor and Taylor 2005) was shown, which involved both other SEND peers and non-SEND peers (Schoger 2006). It was also found that there was increased social support by peers with typical development (Aalsvoort and Gossé 2007) and helpful and accepting behaviours towards SEND peers (André et al. 2013). These achievements were linked to an increase in peers’ requests for repairs in response to unintelligible interventions of their peers with disabilities (Weiner 2005).

The predominant interventions identified to be effective in promoting the support from peers without SEND notably included those aimed at enhancing the social and communication skills of students with autism spectrum disorders (ASDs) predominated (Harper et al. 2008; MacKay et al. 2007), and their reciprocal interactions (Kalyva and Avramidis 2005; Owen-DeSchryver et al. 2008; Harper et al. 2008; Schmidt and Stichter 2012; Chung and Douglas 2015), as well as their unprompted initiations (Nelson et al. 2007). When studying the effect of a peer-mediated intervention, Gena (2006) found that this helped students with ASDs to overcome great social difficulties and establish appropriate social interactions with their class group.

Peer-mediated interventions not only have an impact on the social skills of SEND students, but also have an impact on the attitude and behaviours of typically developing children towards their SEND peers. The ‘Stay, Play and Talk’ programme (Batchelor and Taylor 2005), based on the implementation of social integration activities and peer-mediated strategies, in addition to increasing the initiations of a girl with ASD, similarly to other interventions based on peer support (Gena 2006; Harper et al. 2008), also increased the frequency of social initiations of peers with typical development towards the child with SEND. There was also an action based on promoting social interaction between a student with ASD and her peers, which showed an increase in the quality of these exchanges beyond the intervention, as they became longer and more reciprocal (Kohler et al. 2007).

The analysis revealed that interventions based on promoting social interaction between students with ASD and their peers not only had an impact on those students without SEND who had received training in the framework of the intervention carried out, but they also had effects on students who had not received that training (Owen-DeSchryver et al. 2008).

Some authors highlighted the impact of these educational strategies on the social communication of SEND students in other contexts beyond the classroom (Schmidt and Stichter 2012), such as at recess (Harper et al. 2008; Mason et al. 2014). Moreover, it has been shown how, by incorporating peer support into an intervention aimed at increasing participation in classroom interactive play, the results are generalised to other play settings where intervention had not taken place (Hundert et al. 2014). It was also found that peer-mediated interventions reduced the number of distractions experienced by students with ASD, to the extent that their distraction levels approached those of their peers (McCurdy and Cole 2014).

This evidence points to the fact that, by promoting opportunities for joint work with classmates without SEND, the interactions of students with disabilities are increased (Schmidt and Stichter 2012), and they are provided with models of behaviour and additional support without the need for another adult to be involved (Gena 2006). Owen-DeSchryver et al. (2008) pointed out that strategies based on the support of peers are an ideal way to encourage interactions, since they optimise learning time in the classroom, without the need to diversify. This tool guarantees inclusive practice in the classroom (Gena 2006).
3.2. Social Skill Training in Academic Instruction

A total of four studies among those analysed indicated that incorporating opportunities for social interaction during academic instruction can be an effective method for fomenting the social skills of students with a disability. For example, small learning groups made up of students with SEND and typically developing students have been used for promoting critical thinking, the development of ideas and metacognition functions (Hong et al. 2017). Furthermore, according to Lane et al. (2015), by including social skill training, SEND children have been able to learn to share materials with their peers and acquire some social information about them, as well as reducing disruptive behaviour.

Research into enhancing social skills jointly with instruction reported positive effects on social and relational skills (Schnitzer et al. 2007) and a sense of group membership (Schoger 2006; Hong et al. 2017). As an example, the use of the Reggio Emilia method (Hong et al. 2017), focused on encouraging the contributions of each student through interaction with the learning environment, allowed students with disabilities to feel that they could contribute to the group and, as a result, to become closer to their peers. Reverse inclusion programmes (Schoger 2006) have also been employed, based on having several typically developing students join the activities of the special education classroom in order for them to interact with their SEND peers. Their use improves communication skills (interactions and initiations) and the participation of students with disabilities. Likewise, through a programme aimed at working on both academic subjects and daily life skills together in inclusive classrooms, students with disabilities had positive results regarding self-regulation and self-image, as well as social relations (Schnitzer et al. 2007).

Integrating the social skill training into academic instruction was shown to be an effective alternative for students with disabilities to develop their social skills, since it makes it possible to promote both academic and social learning (Schnitzer et al. 2007). Furthermore, cognitive functions, such as critical thinking or metacognitive functions, can be further developed by using this strategy (Hong et al. 2017).

3.3. Increased Social Participation by Using Play Strategies

A total of nine studies—four of them also included in the first group, focused on peer support—provided clues regarding different interventions that utilised play strategies. Social play has been found to be a key strategy for the development and strengthening of social interaction, which is why it is considered an essential technique in the social and personal development of students. These play skills are closely related to social skills (Stagnitti et al. 2012). One of the key approaches to developing play-based interventions is to emphasise the heterogeneity of the participants, that is, to encourage students with disabilities to interact with peers who have higher social skills (Tanta et al. 2005; Stagnitti et al. 2012; Stanton-Chapman et al. 2012). The most remarkable characteristics of the successful interventions identified were the use of a play preparation session and baseline design, and a follow-up assessment phase (Stanton-Chapman et al. 2012), as well as the use of modelling and imitation (Stagnitti et al. 2012). In particular, one way to promote appropriate play behaviour was found to be using informal settings such as recess (Harper et al. 2008; Mason et al. 2014). Hundert et al. (2014) highlighted that the involvement of peers is, again, a key aspect in generalising increased play skills among children with SEND.

The effects produced by play-focused interventions on the social development of students with disabilities notably include: increased social interactions (Tanta et al. 2005); the improvements in language and decreased social disconnection (Stagnitti et al. 2012); improved communication skills (Mason et al. 2014)—including verbal and non-verbal behaviour (Stanton-Chapman and Brown 2015b)—and an increase in initiations (Harper et al. 2008; Stanton-Chapman et al. 2012); and greater participation time and play sophistication (Nelson et al. 2007). In addition, long-term parallel play behaviours were found between students with disabilities and their peers. In other words, students with SEND began to interact in cooperative play at a level similar to that of their peers (Stanton-Chapman and Brown 2015a).
3.4. Improved Social Skills through the Interactive Use of Technologies

The use of technology, including the mediation of teachers or peers (Lau et al. 2005), was presented in several papers as an important strategy for promoting SEND students’ social skills. A total of five studies among those selected pointed to the significance of this strategy.

Effective interventions involving the use of technology helped students with SEND to display more appropriate social behaviours. The strategies analysed included students with SEND receiving teacher facilitation during computer activities (Lau et al. 2005), and the use of video-modelling tools, followed by discussion and simulation (Hetzroni and Banin 2016). This last study showed how these video modelling interventions could be generalised to the natural environment. Likewise, the fact of providing advice and feedback through recordings of the students doing tasks in small groups was also effective in increasing social support from their classmates, even without feedback from the teachers (Aalsvoort and Gossé 2007). For their part, Alzyoudi et al. (2015) found that the use of video modelling with students with ASD—and, subsequently, employing role imitation—improved the social skills of these children, in addition to increasing their motivation through the use of video. In a similar vein, the use of specific videos for students with ASD (with verbalisations and specific actions for them to learn) immediately achieved an increase in learnt verbalisations and actions (Kim 2016).

4. Discussion

The aim of the literature review was to analyse papers focused on inclusive educational interventions that used interaction, in order to examine their effects on the development of the social skills of students with SEND. The results obtained show the potential impact of interaction-based interventions in promoting these students’ social skills. The interventions included in the articles selected for the review were classified into four blocks, according to their main characteristics: interventions based on peer support; the incorporation of social skill training into academic instruction; the use of social play; and the interactive use of technologies.

The results obtained through peer-based interventions to promote the social skills of children with disabilities (Batchelor and Taylor 2005; Kalyva and Avramidis 2005; Harper et al. 2008; Owen-DeSchryver et al. 2008; Schmidt and Stichter 2012; Chung and Douglas 2015) supported the results of previous research, which identified this strategy as a useful approach in fostering interactions (Bene et al. 2014). This was found to be particularly the case in the field of interventions on students with SEND (Odom et al. 2003), as reflected in the consensus on the acceptability of this strategy by general and special education educators and other professionals (Carter and Pesko 2008).

The mechanisms that fostered the acquisition of social behaviours by students with SEND notably included the imitation of appropriate behaviour, as demonstrated by their typically developing peers (Diamond and Innes 2001). Additionally, one of the most interesting aspects of including peers in interventions aimed at students with SEND was the impact of this participation on the generalisation of improvements in social skills to other settings beyond the classroom (Hundert et al. 2014). Furthermore, peer-based intervention was found to be a very useful form of support for school practice, in order to prevent general educators from taking full responsibility (Carter and Pesko 2008). It should also be noted that peer-centred interventions drove an increase in the interactions of typically developing students with their peers with disabilities (Gena 2006; Harper et al. 2008). These results supported McConnell’s findings (McConnell 2002) that peer support programmes were effective in increasing initiations by peers with typical development, after analysing 48 studies comparing different interventions aimed at students with autism.

The studies analysed also revealed that increasing opportunities for social interaction training in academic instruction has been useful in improving social and relational skills (Schnitzer et al. 2007). In general, improvements were found regarding feelings of group membership (Hong et al. 2017; Schoger 2006); there was increased interest in and empathy towards children with SEND (Hong et al. 2017), an increase in initiations and class participation was also found (Schoger 2006), as well as enhanced sharing-oriented behaviour (Lau et al. 2005). Social skill training during instruction...
is an optimal way to work on socialisation, since it fosters the feeling of belonging to the school (Schoger 2006; Hong et al. 2017), which has a decisive impact on academic results and student well-being (Goodenow 1993). In this way, all the students contribute to the learning group according to their individual abilities. The educator plays a key role as a facilitator and in promoting participation within the group (Giudici et al. 2001).

Play-based interventions have been shown to be a great opportunity to work on interaction. Based on the studies analysed, it has been found to increase the social skills of SEND students (Tanta et al. 2005; Stagnitti et al. 2012). These results are consistent with research previously carried out, which reported improvements in the play behaviours of children with SEND (Spoth et al. 1999; Stanton-Chapman et al. 2006), and a positive effect on the development of social competence and skills (Whittington and Floyd 2009). Play is considered a key strategy for the social and personal development of children (Neville-Jan et al. 1996). Minors with SEND have difficulties in developing the ability to play, so it is essential to provide them with opportunities that encourage this skill (Whittington and Floyd 2009). In the interventions that include play, emphasis was also placed on the generalisation of this tool to other contexts beyond the classroom, for example, recess (Harper et al. 2008; Mason et al. 2014), since play often occurs in informal settings (Cutts and Sigafoos 2001).

The analysis of studies that explored the interactive use of new technologies revealed their results in terms of increasing interactions of children with SEND. Incorporating technology into interactive interventions helps to motivate students (Alzyoudi et al. 2015), while enabling more specialised interventions, for example, by providing specific counselling after recording video interactions (Aalsvoort and Gossé 2007; Hetzroni and Banin 2016; Kim 2016). The studies suggested that it would be advisable to prioritise a properly structured use of ICT as an alternative to mere free play with information communication technologies (ICT), in order to support and facilitate social interaction between children with different levels of social skills (Lau et al. 2005).

The different interventions analysed agreed to consider interaction, particularly inclusive interaction, to be particularly important. All of them started from the premise that learning occurs through the interaction with and observation of peers, who act as models of behaviour (Schmidt and Stichter 2012). This assumption relies on placing a strong emphasis on dialogical social interactions in development (Vygotsky 1979), an idea that supports the study of the role of interactions in inclusive environments (Katz et al. 2002; Carter et al. 2008). This approach coincides with the findings that dialogical social interactions improve social and communication skills, such as increased initiations, greater inclusion, friendship and empathy towards children with SEND, collaborative play behaviour, etc. In addition to the improvements observed in children with disabilities, an increase in support and acceptance of classmates towards children with disabilities was also found, which became visible not only among the students who participated in the interventions, but was also extended to other classmates (Owen-DeSchryver et al. 2008).

These results suggest that developing inclusive learning environments, in which interaction and dialogue between children with and without SEND are promoted, enhances SEND students’ social skills. This finding has been supported not only by researchers, but also by family members and educators (Yell et al. 2006). Likewise, all students highly value diversity at school and the importance that their peers with disabilities are part of the learning community (Fisher 1999).

5. Conclusions

This paper has reviewed 29 articles selected through a systematic search of the literature on interaction-based interventions in school settings. After an exhaustive analysis of these articles, the findings can be summarised by saying that inclusive environments, in which students with SEND work together with their typically developing peers, foster the acquisition of social skills by students with SEND, as demonstrated by different studies over the years (Carlberg and Kavale 1980; Peetsma et al. 2001). The results of the review show how interaction and dialogue between diverse students are the basis for this improvement in the social development of students. These results
are aligned with those of previous research, such as the FP6 INCLUD-ED project (Flecha 2015), which pointed to the importance of promoting actions that foster social and academic competence, through interaction and dialogue between diverse agents in inclusive environments. It is known that SEND students’ interaction with their environment is a factor that has an impact both on their disability and on their social skills (Espelage et al. 2016). It is therefore necessary to focus interventions on fomenting these interactions, in order to move towards guaranteeing an inclusive, quality education for all students (United Nations 2015). In this sense, it is essential to put into practice inclusive actions, the efficacy of which are constated by scientific evidences to achieve improvement—both social and academic—by all students.

The analysed interventions revealed the importance of intervening in the school setting to support students with disabilities in the development of the social skills necessary for life (Gena 2006), in line with the previous results of other studies (Villardón-Gallego et al. 2018). From this perspective, schools that opt for an inclusive educational system are considered more equitable spaces (Arnesen et al. 2007; Vlachou 2004).

One of the limitations found in the literature review is that most of the research was conducted in the same country (the United States), so there is not enough global representativeness. Additionally, all the articles analysed were written in English, which suggests that other important research in the area may have been disregarded. Finally, the samples in the reviewed studies were small in many cases; sometimes they were case studies focused on a single student, which is not an obstacle in itself but needs to be taken into account, since the study focuses on a specific population. It would be interesting in the future to analyse the impact of inclusive and interaction-based interventions on larger samples that allow extrapolation to a wider population. To conclude, it is necessary further research on inclusive and interactive practices in diversity of contexts, to better inform present and future interventions intended to foster the learning and social development of children with special educational needs or disabilities.


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