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The Use of Comic Strip Conversations in Shaping Social Behaviour of Children with Autism in the Context of Play

Abstract

The play world of children with autism is based on a fixed formula of their behaviour. They do not participate willingly in games taken up spontaneously and any attempts to initiate them or join games voluntarily are not always successful. They wish to participate in social contacts like every child, they have motivation towards it but they lack the appropriate knowledge and skills in how to get involved in them normally (Pisula, 2005, p. 103; see Njardvik, Matson & Cherry, 1999, pp. 287–295). The effective method that supports problem solving and enables children to learn social skills, including play skills, is the usage of Comic Strip Conversations, which arranges in a systematic way “what people say and do, and emphasize what people may be thinking” (Gray, 1994, p. 1).

Keywords: *autism, play, play skills, social skills, social behaviour, social interaction, communication, Comic Strip Conversations, cartooning*

Introduction

Different definitions about autism are found in the published literature. All include the essence of social developmental disorders, which is expressed in terms of difficulties relating to alternate social interactions. This is not only a dysfunction in the process of communication, but also an occurrence of types of behaviours, interests and activities (Diagnostic and statistical manual of mental

disorders: DSM-5; 2013, p. 53; see Krasny, Williams, Provencal & Ozonoff, 2003, pp. 107–122; Shaked & Yirmiya, 2003, pp. 126–147; Tager-Flusberg, 2003, pp. 85–103). In addition, we can also observe things such as a difficulty with identifying emotions, beliefs and motivations in others (Baron-Cohen, 1991, pp. 385–395; Baron-Cohen, Spitz & Cross, 1993, pp. 507–516; Baron-Cohen, Ring, Bullmore, Wheelwright, Ashwin & Williams, 2000, pp. 355–364; Hobson, 1986, pp. 671–680). The above-mentioned elements have a huge influence on the quality of the relation between autistic children and their peers, for example, during play.

We do not have to emphasize the value and role of play because it is known that due to games children gain new experiences and acquire rules of the world they live in, thereby developing social skills which affect the quality and frequency of interactions taken by them.

The play between peers is an attractive way of spending time and whilst doing so, children interact with others. Moreover, there is an exchange of information which is quintessential in creating knowledge of the community resultantly enhancing and diversifying relations with others. “This ability to interact and to sustain the process of exchanging information is extremely important for normal development of every child. These first relations produce frameworks of cognitive activeness for social, emotional and communicative functioning” (Gałkowski, 1997, pp. 28–33). Positive experiences are provided by interactions with others (White, Keoig & Scahill, 2007, pp. 1858–1868), however, in autistic children, skills affecting the value of play with peers and attempts to initiate it, are not always satisfactory (DeMatteo, Arter, Sworen-Parise, Fasciana & Paulhamus, 2012, pp. 57–65). Therefore, the experience of loneliness and dissatisfaction with participating in social interactions have a much higher incidence among them (Bauminger & Kasari, 2000, pp. 447–456; Bauminger, Shulman & Agam, 2003, pp. 489–507; Huang & Wheeler, 2006, pp. 109–122). Autistic children are therefore not only more likely to feel isolated than their typical peers, they in addition, isolate themselves from the peer group. Children with autism are aware of loneliness but they do not see a connection between “loneliness and participation in social interactions” (Pisula, 2005, p. 103). The level of behaviours in play with peers, *inter alia*, in the area of proximity, looking, parallel, sharing, cooperating, turn taking, rules and reciprocal, affects play skills, thus their reactions in the play are varied. Some of them react with riot, aggression, scream and cry, if something “doesn’t go the way they want it to”; the others impose their conditions on a tough manner, with no regard of feelings and beliefs of others, the others again leave the playground, giving up at the same time. What is more, children with autism have a problem with the ability to relocate attention. They need more time to collect and process information. Hence,

interventions based on visualisation are significant in learning social behaviours in autistic children (Grandin, 2006, p. 176).

Comic Strip Conversations enable this concept by using a drawing of simple illustrations in the form of a comic strip whilst talking (Gray, 1994, p. 1). Comic Strip Conversations were developed by Carol Gray (1994). Comprising the form of a modified social story (cf. Cattone, Wilczynski, Edwards & Rabian, 2002, pp. 535–543) and for explaining social phenomena, they provide an approach of a problem workout and present an appropriate solution to it, depending on a problematic situation of the child (Pierson & Glaeser, 2005, p. 279). As already mentioned, Comic Strip Conversations use paintings, these are mainly symbols representing communicative skills: The Comic Strip Symbols Dictionary (two sets of symbols: listening, interrupting, loud and quiet words, talk and thoughts) and the Student's Personal Symbols Dictionary, which contains symbols often used by a child (Gray, 1994, pp. 5–14). Moreover, emotions, thoughts and questions are represented by the appropriate colour, depicted in Conversation Colors (Gray, 1994, p. 39). Whilst working with a child, a person who leads a discussion, directs the child at a drawing asking questions: "Where are you?"; "Who else is here?"; "What are you doing?"; "What happened?"; "What did others do?"; "What did you say?"; "What did others say?"; "What did you think when you said that?"; "What did others think when they said that/did that?" (Gray, 1994, p. 9; cf. Pierson & Glaeser, 2007, pp. 460–463). If it is required by a situation and if we can observe that the child not only wants but also speaks eagerly, we can subsequently increase the range of questions, depending on the analysed situation.

Only some hints concerning the research and effectiveness of the intervention with the usage of Comic Strip Conversations have been presented so far in the published literature (cf. Pierson & Glaeser, 2005, p. 279–284; Glaeser, Pierson & Fritschman, 2003, pp. 14–19; Rogers & Myles, 2001, pp. 310–313). The research discussed in the present publication corresponds to the research carried out by M.R. Pierson and B.C. Glaeser (2005, pp. 279–284). Four students subjected to Comic Strip Conversations were characterised with learning difficulties and deficiency in social functioning. The aim of the intervention was to eliminate outbursts of anger and to learn to share toys and cooperate with others on the playground, obeying play rules and turn taking. Studies with the usage of Comic Strip Conversations were carried out over a period of six weeks and after that time positive changes in the students' behaviour were reported.

Other studies carried out by M.R. Pierson and B.C. Glaeser (2007, pp. 460–466) in which Comic Strip Conversations were also used to improve play skills, were conducted on a group of three students with autism who refused to play a game, if

it was a different game from the one they had wanted to take part in, or play which had rules different from the ones accepted by them. Consequently, the students who beat and kicked their friends felt lonely. The intervention was conducted when difficult behaviour appeared.

After six weeks, the research demonstrated an increase in positive behaviours, which was connected with higher frequency of the children's attempts to initiate play in a playground. The only flaw which can be found in the ongoing research relates to the small number of participants involved, however, the results are encouraging in the use of this method.

Research Methodology

General Background and Research Sample

Quasi- experiment has been conducted with the technique of one group, using the intervention with Comic Strip Conversations. The aim of the research was to answer the question: "What is the effectiveness of Comic Strip Conversations in shaping social behavior in children with autism?" In view of the above, a research hypothesis was formulated: "Comic Strip Conversations will positively influence the change in social behaviour in children with autism". Forty-three students with autism took part in the studies in the Subcarpathian Region mainly in Przemyśl. Those were preschoolers and primary school students.

Instrument and Procedures

In the research, the method of quasi- experiment (quasi- experimental design) was used, i.e. an experiment with one group, in which a pretest, as well as a post-test were conducted without a control group. Aside from this, the following measuring instruments were used: The Assessment of Social Comfort Levels (developed by A. Jack Wall, Charlotte TEACCH Center. Adaptation by Steven R. Love, Asheville TEACCH Center). The range is composed of eight categories of behaviour: proximity (9 items), looking (8 items), parallel (10 items), sharing (11 items), cooperating (11 items), turn taking (6 items), rules (8 items), reciprocal (10 items). Additionally, direct observation was used, during which many interesting observations and facts from the studied findings were collected. In the first stage of the research students were examined by using The Assessment of Social Comfort Levels. Having completed that, an intervention based on the usage of Comic Strip Conversations was carried out within six months. The second stage of the research was to re- study the group by using The Assessment of Social Comfort Levels.

Data Analysis

The acquired empirical data was subjected to quantitative and qualitative processing with the use of statistical programme called STATISTICA 10. Data analysis and the probability of employing statistical test were subordinated to accepted objectives and research problems. Regarding quantitative data, arithmetic means and standard deviations were calculated. In order to specify typical behaviours of children with autism, tests of significance of difference for dependent pairs in the case of studying differences between pretest and post-test in the group were also employed.

Research Results

Detailed data concerning the pretest and post-test of behaviour of children with autism, including not only arithmetic means and standard deviations, but also value of the test of differences of t-Student for dependent pairs between the compared samples, on the basis of their level of statistical significance, are illustrated in Table 1. The results that are shown in tables refer to eight spheres associated with the students' behaviours.

Table 1. Comparison of Pretest of students' behaviours with Post-test

Category	Pretest		Post-test		Means Comparison	
	M	SD	M	SD	t°	P
proximity	24.51	3.56	24.58	3.60	-1.354	0.182
looking	22.32	2.29	22.37	2.25	-1.431	0.159
parallel	27.23	3.63	27.30	3.64	-1.774	0.083~
sharing	29.13	3.47	29.34	3.19	-2.149	0.037*
cooperating	32.34	3.06	32.51	3.06	-2.203	0.033*
turn taking	15.39	2.18	15.67	2.36	-4.032	0.000*
rules	21.67	3.83	22.23	3.88	-6.680	0.000*
reciprocal	27.20	3.60	27.23	3.61	-1.000	0.323

T-test for dependent samples. M – arithmetic mean; SD - standard deviation; t° – t-Student (t-test); Marked differences are significant at $p < 0.05^*$; Marked differences are close to statistical significance between $(0.1 > p > 0.05)$ ~Source: own research

The conducted research, information collected during its studies and a thorough analysis of the obtained results contributed to selecting the categories of behaviour, to which the usage of intervention with Comic Strip Conversations was effective. After completing the experiment, it was stated that in the studied

group the pretest of behaviours was at a lower level in comparison with the results obtained in the post-test of the research.

On the basis of the evaluation of the spheres of the students' behaviours in the studied group, it was stated that there were four categories of behaviours on the level of statistical significance: sharing ($p < 0.037^*$), cooperating ($p < 0.033^*$), turn-taking ($p < 0.000^*$) and rules ($p < 0.000^*$). On the level of difference close to the level of statistical significance in the parallel ($p \sim 0.083$) category, differences between arithmetic means of the pretest and post-test in favour of the latter. This means that the hypothesis was confirmed.

On the level of lack of statistical significance there are three categories of behaviour: proximity ($p > 0.182$), looking ($p > 0.159$) and reciprocal ($p > 0.323$). The values of arithmetic means are on a favourable level in the case of the research on the post-test. These particular categories show a tendency towards minimum changes on the specific levels, although they lack statistical differences.

In the presented results, four categories of behaviour should be distinguished: sharing, cooperating, turn taking and rules. The studies presented here are similar to those carried out by M.R. Pierson and B.C. Glaeser (2005, pp. 279–284; 2007, pp. 460–466) which, despite a small research sample, have proved the effectiveness of Comic Strip Conversations in learning and obeying rules, cooperating with a group, turn taking and sharing some objects with others.

Discussion

Willingness to participate in social contacts and a scope of abilities vary greatly in children with autism (Pisula, 2005, p. 104), and their constraint in the sphere of play skills is the reason for their poor social contacts (Wiekiera, followed by Winczura, 2010, p. 93).

The studied children had problems with playing with peers. It was concluded from the observations that the problem of play skills were mainly related to four categories of behaviour: sharing, cooperating, turn taking and rules. On the level of sharing these were, inter alia, the following behaviours: an inability to share toys, non acceptance of others to play with toys which belonged to the child, treating toys for common use as if they were theirs and preventing the others playing with them, and finally taking toys away from the others without their permission. In the scope of cooperating these were identified as behaviours on the level of non- initiating play with others, quick resigning from play, taking a directorial attitude in playing, lacking the ability to compromise and the ability to cooperate with others with

the agreed purpose of the play. On the level of turn taking, attention was paid to the following behaviours: lack of the ability to wait for their turn to play, failure to follow the rules of turn taking while playing with others, and misunderstanding of the fact that turn taking should be based on fair rules. In the latter aspect, i.e. rules, the children had a problem with being guided by simple rules indicated by the play, they modified the rules in their own way, ignoring others and not understanding that the play should be based on principles, and they did not want to participate in creating the rules before starting to play. After six months, i.e. the period of finishing the intervention with the usage of Comic Strip Conversations and a restudy of the students, positive changes within particular categories of behaviours were reported. For example, the students started to share objects of common use and were keen to show their toys as well. They eagerly took up play, adopting different postures in a chosen play and started to respect the rules of turn taking. They not only participated in creating play rules with pleasure, but also followed them.

One category relating to the level of difference close to the level of statistical significance, a parallel category, also indicates positive changes in the presented field. Children started to be interested in what others were doing, encouraged others to imitate what they were doing. Their participation in the group was increased by “staying with the group”.

It is important to know that in the remaining categories, despite the fact that the results were not found on the statistically significant level, changes in their behaviour were observed. In the category of proximity, awareness and tolerance towards other children with autism had developed as well. The children willingly encouraged others to sit down near them and even started to sit close to other members of the group. In the category of looking, the studied children had an increased awareness of the changes taking place in their environment, they had become more perceptive and paid attention to those in the group who were absent. Moreover, their eye contact with others increased. In the category of reciprocal behaviour, children had begun to respond appropriately to messages and signals from others. Communication with the peers also improved and the children started to interact effectively with others.

The applied intervention with the use of Comic Strip Conversations therefore proved to be effective and its conducting was relatively simple and pleasant both for the adult and for child. The adult was sitting next to the child who was talking, expressing the emotions and drawing at the same time (“drawing while talking”). Sheets of paper and white boards were used for this. Each conversation depended on the level of acquaintance of the child and on the child’s willingness to tackle a task.

The former research carried out by M.R. Pierson and B.C. Glaeser (2005, pp. 279–284; 2007, pp. 460–466) involved small attempts, nevertheless, it showed that through Comic Strip Conversations we can eliminate anger between children, we can teach children how to share objects with others, raise their awareness of the meaning of rules and necessity to respect them in play, and show the right grounds for cooperating with others, eliminating outbursts of anger.

In conclusion, it has been stated that the intervention based on Comic Strip Conversations can support social behavior development of children with autism as by using it we can analyse a problem with a child and situations connected with it, i.e. it helps the child to look at the problem from his/her own perspective and makes the child more sensitive to feelings and motives of the behaviour of others. Due to the fact that a discussion with Comic Strip Conversations is built upon pictures rather than text, it becomes an effective visual tool for looking at a problematic situation and finding solutions to a difficult situation (Pierson & Glaeser, 2007, p. 460). By using simple pictures, figures and other symbols, an autistic child and an adult draw conflict situations in which the child participates and they jointly discuss methods of solving them (Pierson & Glaeser, 2007, p. 460). Comic Strip Conversations teach how to maintain interpersonal contacts in an appropriate manner and solve situations which constitute a source of unpleasant emotions (Pierson & Glaeser, 2007, p. 461). By their usage, children have a better perception of themselves in the context of their behaviour.

As already pointed out, in the published literature there have only been minor references concerning the research on the effectiveness of intervention with the use of Comic Strip Conversations (cf. Pierson & Glaeser, 2005, pp. 279–284; Glaeser, Pierson & Fritschman, 2003, pp. 14–19; Rogers & Myles, 2001, pp. 310–313). Although the studies conducted by M.R. Pierson and B.C. Glaeser (2005, pp. 279–284; 2007, pp. 460–466) were related to small groups of participants, they have demonstrated their effectiveness. In the future, research with the use of Comic Strip Conversations should be extended by a control group and a greater number of participants.

Conclusions

Modifying behaviours required in a specific community and shaping or improving the existing abilities in children with autism has a very complex nature and is not an easy process. Thus, the generality of needs and individual predispositions is to be taken into consideration. These changes are not visible immediately,

sometimes it can be only a tendency towards a positive change, which is indeed a success. The results shown in this publication suggest that the presented intervention has not had an unilateral impact on the improvement of only one category of behavior – it has rather had the nature of reciprocal infiltration of particular spheres, in which behaviours have been analysed and thereby abilities of children have been influenced by it.

The presented intervention using Comic Strip Conversations arranges the social world of children with autism. By using it, we can affect social skills and elicit them if we structure the conditions in which play takes place, or more precisely if we support children with autism in solving difficult situations which are unpredictable for those which restrain their activeness.

Cartooning, used in Comic Strip Conversations is very supportive for children with autism, who are visually orientated; it helps them to understand social situations and expected behaviours (Gray, 1994, p. 1; cf. Odom & Watts, 1991, pp. 27–42). This method uses ideas and words included in speech bubbles, which also brings hidden rules of different social behaviours (Kerr & Durkin, 2004, p. 641). The approach is very attractive to children with autism as it introduces the element of play and additionally stimulates by using a drawing. Another positive point is that Comic Strip Conversations are not only used after challenging unpleasant incidents by a child, but also by using this approach we can make the child more sensitive and raise his/her awareness of different social situations in which the child will take part.

Hence their wide usage for learning social behaviours including play skills (Ali & Frederickson, 2006, pp. 355–377; Rogers, 2000, pp. 399–409), inter alia: in the recognition and comprehension of social expectations and in the understanding one's point of view, and most importantly, in the understanding of principles. Therefore, "Comic Strip Conversations regard the thoughts and feelings of others as holding equal importance to spoken words and actions in an interaction" (Gray, 1994, p. 2).

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