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Impact of Role-play Activity on Evolution of Cohesion among Students with Specific Language Impairment

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ABSTRACT

In the present study we aimed to evaluate the effect of role-play on group cohesion among students with specific language impairmentt. This pre and post-test study rely on role-play and primarily based on two standardized assessment methods. Twelve students with specific language impairment were participated. After twenty-seven sessions of role-play, group cohesion index and sociometric scale were established and carried out accordingly. The results characterized as statistically significant. This study laid useful groundwork for the future implementation of role-play that may provide additional insights into group cohesion of children with specific language impairment research.

*Keywords***:** Specific language impairment, role-play, group cohesion, sociometry

1. INTRODUCTION

Many studies have indicated that children with specific language impairment (SLI) are at risk not only for language difficulties but also for social difficulties [1-3]. For instance, they

frequently fail to respond when a peer speaks to them, and their initiations tend to be ignored by their peers with typically developing language [4]. In addition, children with SLI often react impulsively by being physically intrusive or they withdraw from interactions [5] and entering a peer group with difficulties or playing uncooperatively [6].

There is evidence that some of these social difficulties persist well beyond early adulthood [7] and co-exist with reduced functioning in other areas of daily life. Furthermore, unsuccessful interactions in the early years simply leave children with SLI socially unpractised, leading to lasting gaps in their social competence [8,9]. Therefore, it's predominant for teachers to consult with speech therapists in order to learn the effective teaching strategies to support the needs of children with SLI [10].

There is a significant literature on the use of role-play (RP). It has been proposed as an engaging way to help solve inter-personal problems and increase group cohesion [11,12]. As stated recently, it can be a very successful tool in the teacher's hands, as its prime goal is to boost students interaction in the classroom [13]. Particularly if a classroom has cohesion, the students relate to each other positively, engage in class more actively, and eventually gain more [14].

It's widely known that in educational research and specially in studies concerned with children's social experiences of schooling who are different, disabled, or have learning disabilities, there are considerable reliances on the use of indices and/or scales to measure group cohesion.

In the present study we aimed to evaluate the effect of RP on group cohesion among Russian students with SLI at the special boarding primary school. Firstly, we will give an explanation regarding RP, group cohesion and sociometry then, the results of the research.

1. 1. Theoretical framework of RP

RP is a vital tool across a wide range of education and training scenarios, from adults in organisational or therapeutic contexts to children in schools. It can be defined and implemented in several ways [15] such as the projection in real life situations with social activities [16], it is also as a pedagogical strategy that raises the awareness of the effects and consequences of how we act and communicate during social interaction [17] or as a pedagogical method providing the opportunity for student to student and student to faculty partnerships in the classroom [18].

RP underscores the element of interpretation, in addition to highlighting dilemmas and values, which may otherwise be difficult to elucidate and understand [19]. Furthermore, RP could be used to develop skills in conflict resolution [18]. In the literature there are practical guidelines for teachers about how to set up and manage RP [20,21]. The guidelines highlight the necessity of clarifying: Why use RP? When to use RP? How to organize RP?

Above all, RP attempts to help individuals to find personal meaning within their social worlds, and to resolve personal dilemmas with the assistance of the social groups. In the social dimensions, it allows individuals to work together in analyzing social situations, especially interpersonal problems, and in developing decent and democratic ways of coping with these situations [22]. After all, although knowledge about how RP can impact remains incomplete, but there is no doubt that this procedure has not yet been used to its full advantage.

1. 2. The concept of cohesion

Group cohesiveness (also called group cohesion and social cohesion) arises when bonds link members of a social group to one another and to the group as a whole. There are different ways to define group cohesion, depending on how researchers conceptualize this concept. However, most researchers define cohesion to be task commitment and interpersonal attraction to the group [23,24].

Despite early suggestions that cohesion comprises multiple factors [25-27], some researchers continued to regard cohesion as a unidimensional construct [28-30]. A variety of rating scales have been used to measure cohesion, including the degree to which members of the collective are attracted to one another, and the degree to which they are attracted to a collective task and its accomplishment. In this regards, the forces that push group members together can be positive or negative.

The main factors that influence group cohesiveness are: members' similarity [31], group size [32], entry difficulty [33], group success [34,35] and external competition and threats [36,37]. Often, these factors work through enhancing the identification of individuals with the group they belong to as well as their beliefs of how the group can fulfil their personal needs. As cohesion has been related to a number of different variables, the primary focus has been on determining the relationship between cohesion and performance [28].

1. 3. Introduction to sociometry

Sociometry is a powerful way for estimating dynamics and development in groups devoted to therapy or training programs. In addition, it shows the patterns of how individuals associate with each other when acting as a group toward a specified end or goal [38].

In sociometry after conducting all the interviews and obtaining ratings from everyone, the next step is to chart all the responses in the sociomatrix. When members of a group are asked to choose others in the group based on specific criteria, everyone in the group can make choices and describe why the choices were made. From these choices a description emerges of the networks inside the group. A drawing, like a map, of those networks is called a sociogram. The data for the sociogram may also be displayed as a table or matrix of each person's choices. Such a table is called a sociomatrix.

The selection of the appropriate criterion makes or breaks the sociometric intervention. As in all data collection in the social sciences, the answers you get depend on the questions you ask. Any question will elicit information but unless the right question is asked, the information may be confusing or distracting or irrelevant to the intervention's objective. As a general rule questions should be future oriented, imply how the results are to be used, and specify the boundaries of the group [39].

2. EXPERIMENTAL

The theoretical bases of the present study were the principles of the system approach to the analysis of socio-psycho pedagogical phenomena and activity approaches to the study of small group. As well the achievements of modern pedagogy in the field of integrated study of the social, pedagogical and psychological researches [40-42].

For practical groundwork we have chosen varied RP and then, based on the two standardized testing methods the effect of role-play on the process of group cohesion was

evaluated appropriately. Thus, the following research projects were posed as the focus of our report.

2. 1. Participants

All students of 2nd grade, including four boys and eight girls aged 7-8 years with some deficits in communication skills and social interactions based on the nature of their SLI were engaged. They were students of special class that participated in the study as part of their natural class setting; utilizing social groups and social skills intervention were already part of the classroom curriculum. The intervention strategies used did not disrupt the routine or schedule of the classroom setting.

All participants in the current study come from Russian speaking population and their language, cultural and socio-economic backgrounds were similar to each others. Also, they were initially screened through the use of standardised tests and were excluded from the study if an articulation disorder or cognitive delay were noted in the educational records. Prior to inclusion in this study, all students and their parents or legal gurdians were consented for participation in the study.

2. 2. Procedures

This pre and post-test experimental study was conducted in an appropriate class at the special boarding primary school in central Omsk, Russia. The exclusive day class is part of the program operated by the office of education for teaching functional academics, life skills, and communication skills to students with SLI. All students in this class benefit from small group and specialized academic instruction and also they received speech and occupational therapy. The classroom staff included a full time special education teacher, a classroom volunteer teacher and a part time speech and language therapist.

The current research relies on story formation and control in live action RP. The practical guidelines about how to set up and manage RP were described previously [20,21]. We were designed a program for 30 sessions (including pre-test 1 session, orientation program 1 session, RP 27 sessions and post-test 1 session at the end of program), 2 times a week and about 40 minutes for each session (containing 7 minutes for greetings expression, evaluation of mood on the emotional thermometer and topic introduction, 25 minutes for task execution and 8 minutes for children reflection and farewell session) within 4 months of the school year. The planning guide of RP are shown in Table 1.

In order to study effect of RP on group cohesion among students, two standardized assessment methods were established and carried out by qualified staff members accordingly.

First, Seashore cohesion index was performed as previously described [28]. In brief, the technique consist of 5 multiple choice questions. Responses are encoded in points according to the values given in parentheses (the maximum amount of: +19 points, minimum: -5).

Next, Martsinkovskaya "Two Houses" sociometric scale was performed as described previously [43]. Concisely, the students were given a sheet of paper on which were drawn two houses, one of them big, beautiful and red, and the other one small and black. They were asked to look at the houses and imagine that there are a lot of beautiful toys in the red house and black one does not have any toys. The students were instracted to think and tell whom from the group they would like to invite to the red house, and whom to settle in the black house. During study researcher talks with each child individually to record their choses and they had chance to change their chose.

To achieve results of group cohesion index and sociometric scale, the pre-test at the beginning and the post-test after completion of all the sessions at the end of the program were established and administered to the students.

The questions during pre and post-tests were initially explained by the researchers when handed out. All the collected data through pre and post-tests were documented in case notes. The statistical analysis of obtained data were designed according to the Wilcoxon signed ranks test.

Table 1. Thematic units planning guide of RP for children with SLI.

No	Theme sessions	Time	N	Theme sessions	Time
1	Pre-test	40 min	16	Interview	40 min
2	Orientation program	40 min	17	Bus	40 min
3	Quarantine	40 min	18	Flying to the moon	40 min
4	The snakes and bees	40 min	19	Astronauts	40 min
5	Trip	40 min	20	Trip around the world	40 min
6	Hare- braggart	40 min	21	Treasure hunt	40 min
7	Conflict	40 min	22	Quarrel & reconciliation	40 min
8	Beet	40 min	23	Cinema	40 min
9	Birthday	40 min	24	Wonderland	40 min
10	Our friendship	40 min	25	Science lab	40 min
11	Collective tale	40 min	26	Winnie the pooh & bees	40 min
12	Animals	40 min	27	Trip to the healthy city	40 min
13	A family	40 min	28	Sorcerers in the village	40 min
14	School	40 min	29	The friendship tree	40 min
15	Construction	40 min	30	Post-test - program ended	40 min

3. RESULT AND DISCUSSION

The present study attempted to evaluate effect of RP on group cohesion among Russian students with SLI at the special boarding primary school. In the first part of analysis, the data of students' performances were collected and then, a number of descriptive statistics such as pre and post-tests samples, difference, Abs (difference), rank and signed rank were calculated. The individual results of Wilcoxon test are displayed in Table 2.

Table 2. The Wilcoxon test and observed difference between pre and post-test, value, rank and signed rank based on the Seashore's cohesion index.

N	Pre-test	Post-test	Sign	Abs (Diff)	Rank	Signed Rank
1	11	15	-1	4	3	-3
2	10	15	-1	5	4.5	-4.5
3	5	14	-1	9	8	-8
4	6	11	-1	5	4.5	-4.5
5	5	11	-1	6	6.5	-6.5
6	5	11	-1	6	6.5	-6.5
7	4	15	-1	11	9	-9
8	5	6	-1	1	1	-1
9	10	10	n/ a	0	n/ a	n/ a
10	11	14	-1	3	2	-2
11	4	16	-1	12	10.5	-10.5
12	5	17	-1	12	10.5	-10.5

As it can clearly be seen in the Table 2, one of the student's (number 9) pre and post test difference score was zero, it means that a student has the same score in both tests. Therefore, it was discarded from analysis and the sample sizes were reduced to eleven. The group cohesion descriptive analysis results of Wilcoxon signed ranks test are shown in Table 3.

Table 3. Results of Seashore's group cohesion in the Wilcoxon signed ranks test.

Tests	N	Sum of R	W-value	MD	Mean W	SD	Z	P
- Rank	11	66	0	-9	33	11.25	-2.9341	0.00169*
+ Rank	0	0						

The result is significant at p≤ 0.01

According to Table 3 of Wilcoxon signed ranks test of Seashore cohesion index, the W-value is 0, mean difference is -9, sum of positive and negative ranks are 0 and 66 respectively, mean (W) is 33, standard deviation is 11.25 and sample size (N) is 11. Also, descriptive analysis results are shown that Z-value is -2.9341; and the p-value is 0.00169. Thus, the result

is significant at p≤ 0.01. On the ground that the sample size is lower than 20 but not below 10, we were used W-value. Since W-value is 0. Hence, the critical value of W for N = 11 at p≤ 0.01 is 7. Therefore, the result is significant at p≤ 0.01.

In this report evidence is given to support that in the process of RP group cohesion developed. Since sociometry is a way of measuring the degree of relatedness with people that can be suitable not only in the assessment of behavior within groups, but also for interventions to carry around positive change and for determining the degree of change. Hence, to find out whether group cohesion among children successfully accomplished or not, sociometric technique as an additional researchers approach was employed. Individual and overall results of Wilcoxon signed ranks test of sociometric status are shown in Table 4 and 5 respectively.

Table 4. The Wilcoxon test and observed difference between pre and post-test, value, rank and signed rank based on the Martsinkovskaya's sociometric technique.

N	Pre-test	Post-test	Sign	Abs (Diff)	Rank	Signed Rank
1	10	9	1	1	2	2
2	9	10	-1	1	2	-2
3	4	9	-1	5	9	-9
4	4	11	-1	7	11.5	-11.5
5	4	9	-1	5	9	-9
6	3	10	-1	7	11.5	-11.5
7	7	9	-1	2	4	-4
8	7	10	-1	3	5.5	-5.5
9	7	10	-1	3	5.5	-5.5
10	9	10	-1	1	2	-2
11	3	7	-1	4	7	-7
12	6	11	-1	5	9	-9

According to Table 5 of Wilcoxon signed ranks test of sociometric status, the W-value is 2, mean difference is -3.92, sum of positive and negative ranks are 2 and 76 respectively, mean (W) is 39, standard deviation is 12.75 and sample size (N) is 12. Also, descriptive analysis results are shown Z-value is -2.9025 and the p-value is 0.00187. Thus, the result is significant at p≤ 0.01. As previously mentioned, due to the sample size (lower than 20 but more than 10) we were used W-value. As long as W-value is 2. Hence, the critical value of W for N = 12 at p≤ 0.01 is 9. Therefore, the result is significant at p≤ 0.01.

Following successful termination with all the sessions in aforementioned research project and comparing the task analysis data of the pre-tests at the beginning of experiment with the post-tests performance data, the results characterized as statistically significant.

The results of data analysis shown in Tables 3 and 5 indicate that children made significant progress during the course. We noticed that almost all students felt the duration of the RP was too short. Once they had begun RP they found it generally enjoyable and wanted more time to perform and demonstrate their knowledge and skills.

For children especially those with SLI it's very important to participate in play activities with one another because this encourages positive interactions among peers, but implemented game should stick to some essential principles [44]. In this regard, RP is an indispensable part in development of cohesion among children with SLI and offers a unique opportunity for resolving interpersonal and social dilemmas [22].

Table 5. Results of sociometric status in the Wilcoxon signed ranks test.

Tests	N	Sum of R	W-value	MD	Mean W	SD	Z	P
- Rank	12	76	2	-3.92	39	12.75	-2.9025	0.00187*
+ Rank	0	2						

The resulth is significant at p≤ 0.01

The outcome of our study highlights RP is an essential implement for process and development of group cohesion among children with SLI. Indeed, researchers attributes this partly to the factors that influence group cohesion as mentioned priviously [31-35]. From the perspective of social attraction as the basis of group cohesiveness, similarity among group members is the cue for individuals to categorize themselves and others into either an in group or out group [45].

The advantage researcher identified in performing this study included the small number of examined children. Hereof, small groups are more cohesive than large groups [32]. This is often caused by social loafing, a theory that says individual members of a group will actually put in less effort, because they believe other members will make up for the slack. It has been found that social loafing is eliminated when group members believe their individual performances are identifiable, much more the case in smaller groups [46].

Considering due to ethical reasons, it's not possible to conduct a control study in a Russian special bording primary school. However, the absence of a control group limits the present study.

Research has demonstrated that sense of coherence predicts positive health outcomes [47]. A person with a strong sense of cohesion is more likely to feel less stress and tension, and to believe that he or she can meet demands [47]. Hence, this finding may have important implications for impact of RP activity to promote group cohesion development.

4. CONCLUSIONS

Based on the data available, the authors conclude that RP significantly improves group cohesion of primary school students aged between 7 to 8 years old with SLI. In this perspective, the positive effects of the various RP might be partially due to the students' high similarity. Indeed, the more prototypical similarity individuals feel between themselves and other in-group members, the stronger the group cohesiveness will be [45].

We suggest that RP is a powerful tool for the accretion of group cohesion. It should be noted here that the suggested strategies need time to be implemented.

Since the number of students in this study were small and from a limited age range so, it's uncertain whether the same findings will hold for the broader population of children with SLI. However, RP added a new status for their further application which may provide useful groundwork for the futher SLI research.

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