



Research Paper: Effectiveness of Storytelling on the Components of Communication Skills in Educable Mentally-retarded Children



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ABSTRACT

Background: The ability of communication is one of the critical features, which helps exceptional children to achieve an independent life. Therefore, using educational methods that enhance these abilities in these children is very important and necessary.

Objective: This study aimed to investigate the effect of storytelling on the communication skills of educable mentally-retarded students in Ahvaz City, Iran.

Materials and Methods: This is a quasi-experimental study with pre-test and post-test design with a control group. A sample of 30 mentally-retarded students, who were studying in exceptional schools of Ahvaz, was selected by a multistage cluster sampling method. Then, they were divided into experimental (n=15) and control (n=15) groups. Subjects in both groups completed the pre-test and post-test communication skills questionnaire, and only the experimental group underwent the tale program. The obtained data were analyzed by covariance analysis.

Results: The results of this study showed that the mean scores of Dan's communication skills. There was a significant difference between the students in terms of group membership (experimental group and control group) in the post-test (P=0.001).

Conclusion: The storytelling method based on the communication skills of low-income students' educational mentality was effective and the experimental group trained by the storytelling method achieved higher post-test scores in communication skills.

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1. Introduction

Educable mentally-retarded children are a group of students who can learn skills such as reading, writing, counting, language skills, perception, memory capacity, imagination and creativity, and interpersonal and social relationships. They have developmental delays, and their level of cognitive, physical, emotional, and psychosocial capabilities differentiate them from ordinary children. This group of people can achieve independent living and socialize with other people in the community. However, they need special education to overcome their barriers and achieve self-sufficiency. Research findings show that if programs are tailored to the learning speed of these students, one can hope that in addition to learning self-care skills, they can acquire basic scientific and educational concepts [1]. Educable mentally-retarded or mildly-retarded people constitute 85% of the mentally-retarded community, and their range of intelligence is estimated to be between 45 and 74. One of the problems faced by children with learning disabilities is the lack of social and communication skills [2].

Communication is one of the oldest and greatest achievements of humankind, yet it is the basis for social activity and living. Man has created and developed various ways to communicate, including verbal (language) and non-verbal methods such as facial expression, body language, speech mode, etc., each transmits a part of the information and feelings of an individual [3]. Early childhood is a critical time for learning communication, and school as an after-family environment is the place where communication skills are formed for the first time [4].

Since the 1970s, the researchers have been interested in the measurement of behaviors and communication skills and their related actions. Studies have shown that people with low communication skills may be rejected by their peers during school years and even years later in various life situations [5, 6]. Meanwhile, people with high communication skills are more comfortable in communicating with others, and by managing their excitement and understanding the excitement of their audience, they express their demands constructively and, as a result, they have a more robust social network [6].

Mentally-disabled people experience specific communication problems which the severity of these problems is proportional to their ability so that their verbal ability is likely to decrease with increasing mental deficits. This

delay in the development of language is growing at a slower pace and stops at lower levels, which is a major barrier for communicating with mentally-retarded children [7]. The most crucial problem for mentally-retarded children is their inability to use complex expressions and explain the subject at hand. This problem is very critical in terms of communication because such issues limit the amount of information that the child can share with others, especially when the order or sequence of linguistic activity is required [8].

Therefore, research findings have examined and validated the effect of storytelling on enhancing communication and social skills [9-12]. For example, Abarashi and Teimuri showed that social skills training through role-playing and storytelling were associated with improved social development and socialization in subjects with educable mental retardation [9]. The cognitive deficiency of children, especially in the early age, on the one hand, and their low motivation to participate in therapeutic processes, on the other hand, have encountered some problems with the use of direct therapies such as cognitive-behavioral therapy. Thus, the use of storytelling is a kind of educational method for changing the way of thinking and behavior that has attracted the attention of researchers in recent years [13, 14].

By stimulating the mind and the activity of self-discovery, the proper conditions are provided for the children for stimulating and changing their insight and behavior to learn new concepts and patterns and behave appropriately [15]. On this basis, the use of indirect methods such as games and stories in the training of skills seems necessary [9].

In the storytelling approach, the child will have the opportunity to express his or her issues and deal with them in an imaginary, safe, and unrestricted environment [16]. The storytelling method improves linguistic and communication skills, increases auditory accuracy and comprehension of the meanings of words, as a result of which social skills are positively influenced [17]. In storytelling, the child gains insight and self-awareness by comparing the events in the story with real-life situations. This self-awareness can be a prelude to self-regulation and self-control in the child and, ultimately, to reconcile their conflicts better [18, 19]. Stories are a desirable way of communicating with the child and transferring values and positive changes in their disrupted areas of life. The concepts that are learned directly and indirectly from the story will remain in the children's long-term memory and are useful in challenging situations, such as learning and educational progress [20-22].

In a study, the use of storytelling method in trained mentally-retarded students showed that this therapeutic approach was effective in improving social adjustment, social skills, and reducing their behavioral problems [9]. The findings showed that exceptional children were interested in listening to stories and paid more attention to their storytellers. Also, during the storytelling, they accompanied part-time narratives with their instructors. Interestingly in subsequent sessions, they showed a great desire to retell the story [23].

Diab examined the impact of storytelling on improving children's communication skills and stated that storytelling improved the communication skills of children [24]. Sonsosti and Powel Smith used social stories to teach communication skills to children with Asperger syndrome and reported that this intervention had positively affected the behavior of two of the three studied children. This study was conducted in the children's community of autism, and the results showed that the use of storytelling without the traditional training of these skills could improve the communication skills of these children [25].

The storytelling strategy examines the common communication problems that children encounter in school and community and developing skills for choosing and applying problem-solving skills for communication skills in children. Problem-solving is taught by reviewing problems, searching within the context, identifying with the characters in the story, and providing an example of the proper solution [14].

In light of the results obtained from research on children with mental disabilities, storytelling approach has a lot of benefits for these children like significant improving in personality and social development, solving compatibility problems, improving learning, resolving anxiety, reducing psychological and behavioral issues, improving the quality of life and, ultimately, their prosperity, progress, and independence [26]. Therefore, considering the importance of applying the new methods that provide these essential achievements in the society, this study intends to investigate the effect of storytelling on the communication skills of students with educable mental retardation in Ahvaz City, Iran. We try to answer this question research that whether storytelling can affect the communication skills of students with educable mental retardation.

2. Materials and Methods

This is a quasi-experimental study with pre-test and post-test design with a control group. The study population included all students with mental retardation, who were studying in exceptional schools in Ahvaz, Iran, in the 2016-2017 academic year. They were selected by multistage cluster sampling method. The researchers visited the Office of Exceptional Education in Ahvaz General Education Department. At first, two schools were selected and, then, two classes were considered as clusters of each school. Finally, the students were randomly assigned to the control and experimental groups (each group 15 students). The study subjects included 30 educable mentally-retarded children. To avoid the interfering variables, the two groups were matched for age and gender. The inclusion criteria comprised willing to participate in the research, being female, being 10-12 years old and 10 years old, and lacking chronic diseases. The exclusion criteria were being male, being older than 10 years, inclining, and missing two sessions or more in the storytelling program.

Study instrument

Quin Dom, Communication Skills Questionnaire

The questionnaire consists of 34 questions that are graded based on a Likert-type scale from 1 (never) to 5 (always). It has subscales of assertiveness, perception, and emotion management. Quin Dom designed this test to measure communication skills. Attarha translated and standardized the questionnaire to Persian [27]. Its coefficient of reliability was calculated by Cronbach' alpha. The values were 0.79 for the expression of existence, 0.63 for the perception of others, 0.73 for emotional management, and 0.83 for the total questionnaire. In reliability calculations, the correlation coefficient was 0.65 for the expression of existence, 0.70 for the perception of others, 0.883 for the emotional management, and 0.79 for the total scale [28]. Hosseini et al. confirmed the validity and reliability of the Persian translation of this test in Iranian society [28].

Implementation

The pre-test of the communication skills questionnaire was implemented for both groups in the same condition. Subsequently, the students of the experimental group underwent a training course on storytelling. This training package was prepared by psychologists and conducted in 12 sessions (each session 30 minutes in 3 days a week). During this period, the students of the

Table 1. Summary of the storytelling sessions content

Sessions	Session Description
Session 1	Familiarity with the members of the group informing the children about the activities to be performed at the meetings and familiarity with the types of emotions In the end, children became familiar with a variety of emotions to make them more adaptable to the classroom and sentimental conditions, along with the implementation of a short game
Session 2	The function of emotions and creating factors during the meeting, the therapist presented emotions on the card to the children. Then, by telling a story, in which the hero had experienced different feelings, they asked the children to mark the hero with a cheat on the smileys Then, the cause of that feeling was created, and the results were tested with the help of the children. In the end, the children were asked to discuss their own experiences
Session 3	Facing the child with feelings that create coping behavior around them. In this method, the therapist abandons the story in the middle when the hero takes resilient and aggressive behaviors by expressing four choices. Then the child chooses a solution for the hero to finish the story. Finally, the child talks about the type of hero's feelings and expresses her enthusiasm for each option
Session 4	Familiarize yourself with new confrontational techniques. Familiarizing yourself with the quadruple problem-solving process (hesitation and problem-solving, thinking about solutions, finding solutions, and evaluating them). For further imparting, the therapist paints the pictures of the story on the board to highlight the meaning of the story. During the storytelling, he called on the children to provide solutions and anticipate their possible outcomes. Then, to create coordination and prevent chaos in the class, the four stages were used to resolve the problem of the hero of the story.
Session 5	Understanding the adverse outcomes of maladaptive behavior such as lethargy and thinking about different solutions.
Session 6	Understanding the adverse outcomes of non-compatible behaviors such as lethargy and thinking about different solutions. At this meeting, the therapist started using a storytelling method to create a story for children to build on their thoughts. The story began in this way: it was the day when the prince who loved ... (Children should fill the blank) ..., and so on. The story continues in this way between the children and the therapist. The story ends with the goal that the therapist wanted. And at the end of the session, the therapist asked the children to think about how the hero of the story could choose the best way to deal with his or her problems.
Session 7	The therapist presents a story in which the hero does not accept responsibility for his or her actions. The story goes to the point where the hero of the present situation gets shorter and decides to examine the situation differently from the previous one. The story was entirely told, and at the end, the hero's thoughts were discussed.
Session 8	Understanding different feelings with an emphasis on anger, its causes, and outcomes, as well as an understanding of the emotional views of others with a focus on recognizing the uninhibited behaviors of others.
Session 9	The therapist tells a story, in which there is a hero in the number of therapists, and each of the heroes of the story plays in the corner of the story or has a special dialogue; during the conversation, the story is told from the therapist's language, as predicted. Everyone will say their dialogue, and the story will be read out as a group. It is vital that during each dialogue at some points in time, the championship causes other people's stomachs, but other heroes manage the emotions correctly and apply different confrontational strategies, such as problem-solving, more effective response, program getting guidance with emotional support from others, emotional evasion, preventing anger and hatred and aggression, and revenging heroes of the story.
Session 10	Education of confrontational skills (how to deal with insults, gaining guidance, and emotional support for others, and finding a more effective solution).
Session 11	In this session, one of the stories that was presented at the previous sessions was selected and considered for each child. After familiarizing each child with her roles and dialogues. By reading the dialogues, the text of the story was spelled out in the therapist's language, and the story was read by the group. After finishing the story, the children use the problem-solving method to deal with problem situations. But, this final conversation was made only by the therapist because of children's fatigue.
Session 12	Getting to know the child with her emotions, emphasizing the feeling of anger and discomfort, emphasizing the patience during anger and the process of problem-solving, and examining the consequences of maladaptive behavior.

control group did not receive any intervention. Then, the students of both groups were subjected to the post-test, and the obtained data were analyzed, in SPSS 23. To analyze the data, descriptive statistics (Mean and Standard Deviation) and One-Way Analysis of Covariance (ANCOVA) were used. Table 1 presents a summary of the storytelling sessions content.

3. Results

To investigate the effectiveness of storytelling on students' communication skills, ANCOVA test was used. Before applying this test, the assumptions of this test were examined by the homogeneity test of Regression and Levene's test. Table 2 shows that the interaction of the group with the pre-test is not statistically significant ($P > 0.05$). Therefore, the homogeneous hypothesis of regression slope is established.

Table 3 shows the significant level is higher than 0.05, indicating the equality assumption of variance. Regarding the normality of the research variables, the homogeneity of the regression slope and the variance,

the assumptions of the covariance analysis test are considered as a variable, and this test can be used to analyze the data.

As shown in Table 4, there is a significant difference between the mean scores of student communication skills in terms of group membership (experimental group and control group) in the post-test ($F_{1,27} = 252.655$, and $P < 0.01$). Therefore, the storytelling method was effective in the components of the communication skills of students with mental retardation. The rate of this effect in the post-test phase was 90.3%. To test the effectiveness of storytelling, students' listening skills have been used for single-variable covariance analysis.

As shown in Table 5, there is a significant difference between the mean scores of listening skills in terms of group membership (experimental and control groups) in the post-test ($F_{1,27} = 82.669$, $P < 0.01$).

Table 6 depicts a significant difference between the mean scores of the ability to send and receive messages in terms of group membership (experimental and

Table 2. Regression slope homogeneity test for students' communication skills

Sources	SS	df	MS	F	P
Pre-test communication skills	4703.355	1	4703.355	289.570	0.001
Group interaction and pre-test	0.052	1	0.052	0.003	0.995
Error	422.306	26	16.243	-	-
Total	304136	30	-	-	-

AJNPP

Table 3. Levene's test for the homogeneity of variance analysis of post-test communication skills

P	df2	df1	F
0.120	28	1	2.565

AJNPP

Table 4. The results of ANCOVA to examine the effect of group membership on communication skills

Sources	SS	df	MS	F	P	Eta	Power of Test
Pre-test communication skills	4852.309	1	4852.309	310.193	0.001	0.920	1.000
Group interaction and pre-test	3952.257	1	3952.257	252.655	0.001	0.903	1.000
Error	422.358	27	15.643	-	-	-	-
Total	304.136	30	-	-	-	-	-

AJNPP

Table 5. The results of ANCOVA to examine the effect of group membership on the scores of listening skill

Sources	SS	df	MS	F	P	Eta	Power of Test
Pre-test communication skills	501.463	1	501.463	252.655	0.001	0.893	1.000
Group interaction and pre-test	183.718	1	183.718	82.669	0.001	0.754	1.000
Error	60.003	27	2.222	-	-	-	-
Total	13337	30	-	-	-	-	-

AJNPP

Table 6. The results of ANCOVA to examine the effect of group membership on the scores of the ability to receive and send messages

Sources	SS	df	MS	F	P	Eta	Power of Test
Pre-test communication skills	639.844	1	639.844	194.496	0.001	0.878	1.000
Group interaction and pre-test	87.711	1	87.711	26.662	0.001	0.497	0.999
Error	88.823	27	3.290	-	-	-	-
Total	16588	30	-	-	-	-	-

AJNPP

control groups) in the post-test ($F=26.662$, $P<0.01$). So, the story was effective in receiving and sending students' messages. The rate of this effect was 49.7% in the post-test phase.

As shown in [Table 7](#), there is a significant difference between the mean of emotional control scores in terms of group membership (experimental and control groups)

in the post-test ($F_{1,30}=309.206$, $P<0.01$). So, storytelling was effective in teaching emotional control to students. The rate of this effect in the post-test stage was 92%.

As shown in [Table 8](#), there is a significant difference between the mean scores of insight about the communication process in terms of group membership (experimental and control groups) in the post-test ($F_{1,27}=62.302$,

Table 7. The results of ANCOVA to examine the effect of group membership on the scores of emotional control

Sources	SS	df	MS	F	P	Eta	Power of Test
Pre-test communication skills	738.700	1	738.700	796.748	0.001	0.967	1.000
Group interaction and pre-test	286.679	1	286.679	309.206	0.001	0.920	1.000
Error	25.033	27	0.927	-	-	-	-
Total	12911	30	-	-	-	-	-

AJNPP

Table 8. The results of ANCOVA to investigate the effect of group membership on the insight scores relative to the communication process

Sources	SS	df	MS	F	P	Eta	Power of Test
Pre-test communication skills	212.471	1	212.471	83.630	0.001	0.756	1.000
Group interaction and pre-test	158.285	1	158.285	62.302	0.001	0.698	1.000
Error	68.596	27	2.541	-	-	-	-
Total	10607	30	-	-	-	-	-

AJNPP

Table 9. The results of ANCOVA to investigate the effect of group membership on the scores with decisiveness

Sources	SS	df	MS	F	P	Eta	Power of Test
Pre-test communication skills	169.619	1	169.619	74.208	0.001	0.733	1.000
Group interaction and pre-test	123.434	1	123.434	54.002	0.001	0.667	1.000
Error	61.715	27	2.286	-	-	-	-
Total	9477	30	-	-	-	-	-

AJNPP

Table 10. Summary of the results of the covariance analysis ANCOVA test

Source of Changes	SS	df	MS	F	P	R	Result
Pre-test communication skills	83.5	1	83.5	45.5	<0.01	0.77	Reject zero assumption
Error	31.2	27	1.8				

AJNPP

$P < 0.01$). So, storytelling was effective in teaching insight into the student communication process. The rate of this effect in the post-test stage was 69.8%. As shown in Table 9, there is a significant difference between the mean of severity-related scores in terms of group membership (experimental and control groups) in the post-test ($F_{1,27} = 54.002$, $P < 0.01$). Therefore, storytelling was effective in educating the student with the integrity of the students. The rate of this effect was 66.7% in the post-test.

Given the results of Table 10, since F is calculated as 45.5, the critical value of F is greater than the degree of freedom (1 & 27), so the zero assumption is rejected. Therefore, about the rejection of zero assumptions, we concluded with 99% confidence that there was a significant difference between the experimental and control groups in the communication skills variable. Therefore, learning by storytelling has influenced the communication skills of the experimental group and has predicted these changes by 0.77.

4. Discussion

According to the results, there is a significant difference between the mean scores of student communication skills in terms of group membership (experimental and control groups) in the post-test. The findings of the present study are consistent with the result of several studies [19, 25, 26, 29].

In explaining these findings, it is worth mentioning that most of the problems of educable mentally-disabled children are because of their lack of adequate commu-

nication and social skills. Therefore, training programs that increase these skills in these children can reduce many of their problems. Also, storytelling requires the skills needed by a person to fit appropriately to different social situations. In the content and process, a set of stories is included too and given to the child [25, 26].

It is assumed that the heroine acts as an example, and the person learns new patterns in the process of observational learning and conditional succession. In other words, the child identifies with the hero of the story and places his/her behavior similar to the behavior of the model. In this way, the mentally ill-educated child in the story, which he and his friends narrate, takes the rules step by step, which is quite in line with their level and ability to learn. Then, these messages and roles are generalized to the real course of their lives, and the behavior of the child is guided [29]. Also, a child in a safe place in a story without anxiety, blame, and punishment reaches insight and self-awareness by comparing the situations in the story with her real-life. This self-awareness can lead to self-regulation and self-control in the child, as well as learning communicating skill. It is easier for others to make a difference to others in society.

Storytelling with the increased power of focus and attention on mentally-retarded children follows a significant step in promoting the components of communication skills (listening skill, ability to receive and send messages, insight into the process of communication, emotional control, and the connection with decisiveness) [19]. These skills will have a useful contribution to improving interpersonal relationships and social life.

Considering that children with intellectual retardation in the process of growth rate are slower than other normal children, the use of storytelling facilitates their emotional growth process and the acquisition of a new perspective on other individuals and interpersonal relationships [30]. They also facilitate access to a broader and more familiar vocabulary domain and provide them with the opportunity to use linguistic learning, thus shaping the child's thoughts and feelings easily and indirectly [31].

5. Conclusions

The results of this study showed that storytelling could be used to improve the communication skills of educable children. Also, it could be used in treatment centers for working with children with developmental disorders. Therefore, teachers and experts can use this method to communicate and improve the communication and social skills of these children. One of the limitations of the present study is the non-generalizability of the results to other groups of the community. Another limitation of this study is its inability to follow up on the effectiveness of the educational package.

It is suggested that further studies compare the efficacy of this curriculum package in other social groups (pervasive developmental disorders). We also suggest that different skills and abilities, as well as the educational achievement of these children and the effects of those skills, be addressed in future studies. It is recommended that this study focuses on a wider community of children to evaluate the results. Future research could investigate the effectiveness of storytelling in improving the social status of other children with physical or psychological disorders, such as communication problems or autism.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles have been regarded in this article. The participants were informed about the purpose of the research and its implementation and signed informed consent. They have also been assured about the confidentiality of their information. Moreover, the participants were free to keep up or leave the research program process.

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Authors contributions

All authors contributed in preparing this article.

Conflict of interests

The authors declared no conflict of interest.

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