

EFFECTIVENESS OF AN AUDIO-VISUAL RECORDING PROGRAM IN REDUCING SELECTIVE MUTISM: A QUASI-EXPERIMENTAL STUDY AMONG ELEMENTARY SCHOOL STUDENTS



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ABSTRACT

Background: Elective silence among primary school students presents a significant challenge in educational settings, impacting students' academic and social development. Traditional interventions have shown limited success in addressing this issue, necessitating innovative approaches incorporating modern technological solutions. **Objective:** To evaluate the effectiveness of a program based on audio and video recording activities in reducing elective silence among primary school students in the Al-Baha region's education administration. **Methods:** The study employed a quasi-experimental design with a sample of 20 fifth-grade students (aged 10-11 years) divided equally into experimental (n=10) and control (n=10) groups. The intervention utilized the Elective Silence Scale and a specially developed program based on audio and video recording activities. Pre-test, post-test, and follow-up measurements were conducted to assess the program's effectiveness. **Results:** Statistical analysis revealed a significant difference ($p < 0.01$ and $p < 0.001$) between control and experimental groups in post-intervention measurements, favoring the experimental group. Significant improvements ($p < 0.01$) in the experimental group's scores between pre-test and post-test measurements. No significant differences between pre-test and follow-up measurements in the experimental group, indicating maintenance of improvement. The findings demonstrate that multimedia-based interventions can effectively address elective silence in primary school settings. The sustained improvement in the experimental group suggests the long-term viability of using audio and video recording activities as therapeutic tools. **Conclusion:** The program based on audio and video recording activities proved effective in reducing elective silence among primary school students, highlighting the potential of incorporating multimedia methods in educational interventions for addressing selective mutism.

Keywords: Audio and video recordings, selective mutism, Elementary school.

1. INTRODUCTION

Childhood plays a vital role in the psychological stability of a child's life and it appears that the child's stability during this stage represents a strong indicator of the expectations of psychological stability in later stages of life. Some of these changes appear positive, while others are negative, and these negative changes may result in psychological and behavioral disorders in the child. Dealing with these disorders requires care and attention to ensure that the child overcomes them, and among these disorders, "selective mutism" is one of the most prominent results of a negative interaction between the child and the environment in which they grow up, whether it is the family, school, or other public gathering places. Selective mutism is a problem that requires special attention and care to enable the child to overcome it (Rodrigues, et al, 2023).

Selective mutism is a disorder that occurs in children who express themselves normally in some settings, usually at home, but are unable to speak in other settings, such as school. Selective Mutism Disorder (SMD) is considered a type of psychological disorder, and researchers believe that its incidence rate is significantly low compared to other disorders. Furthermore, scientists, doctors, and treatment professionals point out that there is limited knowledge about SMD (Koskela, et al, 2023). According to the Diagnostic and Statistical Manual of Mental Disorders - Fifth Edition (DSM-5) issued by the American Psychiatric Association, selective mutism is defined as a child's persistent failure to speak in specific social situations where he or she is expected to speak, while at the same time the child speaks in other situations. Thus, selective mutism occurs "selectively" and inconsistently across environments, making diagnosis very complex and difficult. (Shah, et al, 2014).

There are many treatments available to treat SMD, all of which seek to develop behavioral adaptation skills for children affected by this disorder. These treatments focus on developing adaptive skills, which are a strong foundation for overcoming symptoms of selective mutism and enhancing children's ability to interact with others in their environment by improving social and verbal communication. These include developing the ability to verbally communicate effectively and perform various roles in educational and family settings. This therapeutic approach is considered an important contribution to supporting the development of children with Selective Mutism and enhances their future opportunities for social interaction and the development of their professional skills (Gad Al-Rab, 2016).

Audio recording techniques provide a model of a target behavior the recorded individual is initially shown and then asked to replicate and imitate the behavior to reflect everyday contexts of social interaction. These techniques have achieved great popularity in the field of treating social and behavioral disorders in general, due to the availability and ease of access to video recording devices and the advancement of modern technology. (Phillips, 2011). Video modeling and video self-modeling techniques have been used successfully in the treatment of social and behavioral interactions with individuals on the autism spectrum; these models include videos featuring peer role models or siblings as references for imitation. These models have shown increased effectiveness in improving play-related language skills and independent living skills in young children on the autism spectrum, and the use of adult models in video modeling therapy to improve conversational skills with individuals with autism has also been documented. These adult role models are positive role models that individuals on the autism spectrum can look up to and imitate, which contributes to improving their understanding and better application of conversational skills. (McCoy, & Hermansen, 2007).

Audio and video recording-based therapy is based on social learning theory, which proposes that learning occurs and is reinforced by observing the behavior of others (models). The observer is supposed to retain the behavior in memory and undertake to repeat it, while being motivated to reproduce and perform the behavior again. Viewing videos that depict effective behaviors not only enhances skill acquisition, but also increases an individual's self-efficacy. Self-efficacy is an essential factor in the treatment of behavior disorders and is defined as an individual's belief in his ability to perform a certain behavior through achieving alternative performance and experience. When an individual serves as his or her own behavioral model, the likelihood of increasing self-efficacy by displaying performance accomplishments increases (Hart, 2010).

It can be said that audio and video recording activities represent an effective tool for motivating primary school students to interact verbally and participate effectively in class by directing special attention to alleviating the severity of their selective mutism. These activities can contribute to developing their communication and social interaction skills. By using effective behavior models in video recordings, students can be motivated to imitate positive behaviors and increase their understanding of the skills needed for effective social interaction.

The study problem:

The researcher noted through field observations that there are major challenges facing primary school students in verbal interaction and effective communication, as many students show levels of selective mutism during classroom activities, and this mutism is attributed to the lack of verbal participation and difficulties in expressing thoughts and feelings appear clear. The researcher also saw that students who experience this mutism may be more reluctant to participate in classroom activities which could negatively affect their educational experience and personal development. Based on this context, the problem of the study arises in how to motivate and encourage primary school students to get rid of selective mutism and improve their ability to express themselves verbally. Students with Selective Mutism suffer from significantly higher levels of internalizing problems such as shyness, anxiety symptoms, anxiety disorders, social anxiety disorder, and other anxiety disorders. In many cases parents expect the child to overcome SMD without the need for therapeutic intervention, without realizing that neglect in providing appropriate treatment can cause psychological problems that last throughout life, and a study by Mulligan et al (2015) indicated that there are negative effects on children's lives, whether socially or academically, resulting from selective mutism. Selective mutism problems often interfere with academic achievement, social interaction, and personal adjustment. This disorder appears to have a negative impact on various aspects of a child's life and may cause challenges in the educational, professional, and social context. Selective mutism has psychological effects and educational problems for the child. Selective mutism is one of the disorders that affect the child's social skills, and the child avoids optional linguistic contact, speaking, with others. Alyanak et al (2013) and Kristensen (2001) indicated that students with selective mutism are more susceptible to aggressive behavior. Through this, the importance of intervention to reduce selective mutism among primary school students becomes clear. As a study explained (de Jonge., et al (2024). The effectiveness of technology-based simulation activities in reducing selective mutism. So the main question that arises is: How can an effective program be designed based on audio and video recording activities to motivate primary school students to interact verbally and participate effectively in class, with special attention to alleviating their selective mutism?

Based on this context, the problem of the study is how to motivate and encourage primary school students to stop their selective mutism and improve their ability to express themselves verbally. Previous studies indicate that selective mutism may lead to negative effects on the social and academic lives of children. The current study highlights the importance of designing an effective program based on audio and video recording activities to enhance verbal interaction and effective participation in class, with a focus on alleviating selective mutism among primary school students.

Purpose of the study: Check the effectiveness of a program based on audio and video recording activities in alleviating selective mutism among primary school students.

Study hypotheses:

- 1- There are statistically significant differences between the average scores of the experimental and control groups in the post-measurement of the Selective Mutism Scale and its sub-dimensions in favor of the group.
- 2- There are statistically significant differences between the average ranks of the experimental group's scores in the pre- and post-measurements of the Selective Mutism Scale and its sub-dimensions in favor of the post measurement.
- 3- There are no statistically significant differences between the average ranks of the experimental group's scores in the post- and follow-up measurements of the Selective Mutism Scale and its sub-dimensions.

The importance of studying:

Theoretical importance

- 1- The use of audio and video recordings contributes to motivating children to speak and interact more, which helps enhance their communication and social interaction skills.
- 2- Using these activities provides an opportunity for children to improve oral and written language skills as they are encouraged to express themselves and share their experiences.
- 3- Audio and video recordings provide a way for children to monitor and improve their progress, which enhances self-confidence and positivity towards personal abilities.
- 4- These activities can be used as educational tools to enhance academic interaction, such as explaining concepts to the camera or presenting reports on specific topics.
- 5- Using recording methods helps provide a diversity of learning styles, which enhances children's understanding of topics through diverse experiences.
- 6- Audio and video recordings can provide teachers and parents with a better understanding of a child's needs and identify areas that may need additional support.
- 7- These activities can be used as a bridge of communication between school and home, where parents can follow the child's progress and participate in motivating him.
- 8- Providing recordings of children's behaviors and performance can be useful for scientific research and educational evaluations.
- 9- Children and teachers benefit from the integration of technology into learning, as the use of recordings is an incentive to benefit from modern technology.

Practical importance

- 1- Providing opportunities to use audio and video recordings in the classroom promotes children's effective interaction and participation with teachers and peers.
- 2- Children can use audio and video recordings to improve everyday language skills, such as speaking, understanding commands, and expressing their needs.
- 3- These activities can be particularly important in stimulating social engagement, as children are encouraged to communicate with their peers and participate in group activities.
- 4- Audio and video recording activities can be customized to support children's individual educational programs, which help them achieve progress at their own rates.
- 5- Teachers can use audio and video recordings to provide constructive feedback and guide children toward improving their social and language skills.
- 6- Recordings can play a role in facilitating communication between teachers and parents, as parents can see and understand the progress and development that their children are achieving.
- 6- These activities promote the use of technology in education, which enhances effectiveness and encourages the acquisition of technology skills among children.
- 7- Recording children's performance may provide useful information for diagnosing their learning needs and directing educational plans individually.
- 8- Recording children's performance can encourage them to achieve self-progress and work to improve their skills.
- 9- The use of audio and video recordings can provide diverse and inspiring learning experiences for children, making the learning process more exciting and attractive.

The limitation of the study

Objectivity limits: Determined by the study variables represented in a program based on audio and video recordings and selective mutism.

Human limits: It was determined by a sample of primary school students in the Al-Baha Region Education Department.

Time limits: The current study tools were applied during the academic year 1445 AH.

Spatial limits: The tools were applied to a sample of fifth grade primary school students in the Department of Education in the Al-Baha Region.

Study terminology

1. Sound recordings: "Sound recordings use technical means to record sounds and dialogues in the classroom. Audio recording devices can be used to document class discussions, instructions, and students' verbal contributions. Audio recordings can be directed to analyze language and communication patterns and used as a tool to assess the level of verbal engagement"(Vhaduri., et al, 2023, P,15). The researcher defines it procedurally as those recordings prepared specifically for students with SMD in order to encourage them to speak and reveal what is inside them when they are placed in a realistic situation at school.

2. Video recordings: Video recordings allow the use of cameras to document classroom activities, record discussions, perform group activities, and non-verbal interactions. Video recordings are an effective way to explore verbal stimulation and nonverbal communication, and can be used to analyze the verbal and nonverbal interactions of primary school students. (Buchbinder., et al, 2021, 279). The researcher defines it procedurally as those recordings prepared specifically for children with selective mutism disorder in order to encourage them to speak and reveal what is inside them when they are placed in a realistic situation at school.

3. Selective mutism: Selective mutism, as described by Reitman, et al, 2023, p.5, is "a psychological disorder that usually appears in childhood, where the child affected by it is characterized by the ability to speak in some environments, such as home, but remains silent or shows little speech." In other environments, such as school or public places."

The researcher defines it as: the situation in which primary school students choose to avoid verbal participation or oral communication in a stereotypical manner within the classroom or educational environment. These students express their reluctance to contribute to class discussions, and may show a decline in communication with teachers and colleagues.

Theoretical framework

The first axis: Selective mutism: Selective mutism is one of the most prominent psychological disorders that may appear in children at the age of five, and its symptoms gain particular clarity when children newly join the school environment. Statistics indicate that the percentage of people with selective mutism is about one to two percent of the total number of children in the United States of America, approximately equivalent to seven cases for each 1000 children. Thus, it appears that the prevalence of selective mutism exceeds the prevalence of autism spectrum disorder (Al-Najjar, 2015).

The concept of selective mutism: According to the definition of Jaber and Kafafi (1990) Selective mutism "is a rare disorder that appears in childhood, it is characterized by a persistent refusal to speak in most social situations, including the educational setting, even though the child has the ability to speak and understand language.". Despite this, the child still speaks normally in other contexts. In order to diagnose this disorder, the symptoms must persist for at least a month, with the exception of the first month of school entry, given that...Shy, Children's fear of speaking in the classroom may be normal during this period" (Shah., et al, 2014, p.5).

According to these definitions, the concept of selective mutism can be defined as a rare disorder that occurs in childhood. A child with this disorder is characterized by a persistent refusal to speak in most social situations, including school situations, even though the child has the ability to speak and understand language. This disorder manifests itself when the child refrains from speaking in specific social situations where speaking is expected, such as at school or with playmates, while the child continues to speak normally in other situations. The concept refers to the existence of a discrepancy between the child's ability to speak and understand language, and their refusal to speak in some social contexts, which distinguishes this disorder from normal cases of mutism that may result from transient shyness or transient hesitation in some situations.

Characteristics of children with selective mutism: Those children who suffer from selective mutism show some psychological and behavioral symptoms, including excessive shyness and fear of being exposed to social embarrassment, which can result in social isolation and withdrawal from social situations, in addition to clinging behaviors, which consists of avoiding verbal participation in social situations. This clinging behavior reflects the effect of selective mutism on the individual's interaction with the social environment surrounding him (Hung, et al, 2012). These characteristics can be detailed as follows:

1. Emotional characteristics: Many children with selective mutism have difficulties in social situations which can make them feel afraid to interact with peers or adults, and they do not enjoy going to school. They actively engage in nonverbal communication with others across a variety of environmental contexts. Children with selective mutism are likely to have adopted successful avoidance strategies, such as selective speaking in certain situations which reduces their anxiety during these social situations (Bergman et al, 2002; Rodrigues et al, 2023).

Poole et al (2021) suggested that primary school students who suffer from selective mutism have the following emotional characteristics:

- Shyness and hesitation leading to avoiding participating in conversations or social activities.
- Social anxiety, making them feel anxious and nervous in social situations where they are expected to speak.

- Social withdrawal, resulting in them avoiding interaction with peers.
- Reserved emotions, where they tend to keep their feelings internally rather than talking about them.
- Poor social relationships as it may be difficult for them to build friendships and participate in group activities.
- Poor self-confidence, particularly with regard to speaking and social interaction.

Understanding these emotional characteristics indicates the importance of providing support and understanding to students with selective mutism to help them overcome the social and emotional challenges they may face.

2. Linguistic and expressive characteristics: Usually communication disorders have appeared among children with selective mutism. Studies indicate the presence of disorders in the areas of speech and language in a percentage of up to 30.3% in a sample of children with selective mutism (Steinhausen et al., 2006).

McInnes et al (2004) explained linguistic and expressive manifestations in the following:

- Lateness in speech development: They may stumble in forming sentences and expressing their thoughts.
- Weakness in their vocabulary: They may suffer from limited use of vocabulary and challenges in choosing the appropriate words to express themselves
- Difficulties in verbal expression: which leads to their dependence on non-verbal means of expression such as body language.
- Hesitation to use facial expressions: which makes them rely more on non-verbal communication.
- Difficulties in social interaction: They avoid speaking in situations where speech is expected, which affects their interactions with peers.
- Weakness in verbal interaction skills: such as active listening and verbal responses to conversations

3. Psychological characteristics: Children who suffer from Selective Mutism face several challenges that affect their self-concept, which includes a low level of self-confidence and the emergence of feelings of depression and social phobia. They also have difficulty building new social relationships and fail to acquire necessary social skills. These difficulties lead to a weak ability to initiate conversations and communicate effectively which affects their social interactions. These challenges result in lower academic achievement for children with selective mutism. These children avoid participating in class activities and staying away from others, which enhances their isolation and negatively affects their social interaction. They therefore become vulnerable to losing self-confidence and tend to avoid social situations and so ultimately lead to a negative impact on their overall performance and academic achievement (Abdel Hamid, 2015; Koskela., et al, 2024). Understanding these characteristics contributes to making positive changes in the lives of children suffering from selective mutism and helps direct efforts towards improving their psychological and social quality of life.

4. Social characteristics: Many studies identified that those suffering from Selective Mutism may display distinct social characteristics that affect their interactions with the school and social environment (Rodrigues., et al, 2024; Schwenck., et al, 2021; Schwenck., et al, 2022). These characteristics may include:

- Avoiding verbal participation such as class discussions or group activities and prefer to remain in the background.
- Social isolation as they avoid interacting with peers and prefer to play alone.
- Difficulties in building friendships.

Understanding these social characteristics helps teachers and parents provide the appropriate support and environment to stimulate social interaction and enhance students' social experience at school.

The second axis: activities of audio and video recordings to reduce selective mutism:

There are many methods that effectively use audio and video within therapeutic interventions, including the following:

-Video modeling: Video modeling may be subjective or non-subjective, and self-modeling is one technique that involves presentation of Clips Edited videos that model appropriate behaviors. The child watches him or herself receive a desired reward for speaking in a loud, clear tone in front of the class. Self-reinforcement involves receiving a reward for displaying appropriate speaking behavior and involves fading of stimulus to forbid Gradual anxiety-provoking stimulation. For example, new classmates are introduced gradually with the purpose being to facilitate better contextual speaking.

-Video feed: This technique films children speaking fluently in familiar contexts, then edits the video to show the child speaking fluently among strangers or at school.

- Clips the Acoustic is considered (Regan and Howe, 2017, p. 93).

The use of audio recordings and video recordings is very effective in dealing with many behavioral disorders, especially those related to anxiety, social phobia, and other disorders. Audio recordings and video recordings also benefit greatly from recent technical developments that have facilitated the processes of employing them in psychotherapy (Little., et al, 2019). Therefore, these techniques can be effective in treating selective mutism in children.

Audio recordings may help motivate children to talk or interact more in a non-threatening environment, promoting stronger language skills. Recordings can be used to enhance language and pronunciation skills: the use of video recordings to record and monitor a child's behavior in certain social situations can then make it easier to evaluate progress and identify areas that need focus. Video recordings can be analyzed to better understand how a child interacts in social situations and check their verbal and non-verbal responses (Dalton, 2020; Doll, 2021; Van Hove, 2022).

Previous studies:

Al-Najjar's study (2015) focused on the effectiveness of a proposed treatment program in alleviating the symptoms of SMD in a girl in primary school, modifying inappropriate environmental conditions, and providing the girl with some of the skills necessary to deal with some social situations. The study used a case study approach, where the study sample was limited to one girl aged eight years in Riyadh. The study used tools, including a case study form, the proposed therapeutic program represented by clinical interviews and behavioral therapy sessions based on systematic fortification, shaping, reinforcement and self-modeling. Therapeutic interviews were also prepared, which took about 12 months to complete. The study concluded the effectiveness of the program sessions. The proposed treatment for alleviating the severity of the symptoms associated with SMD in the child and her ability to interact positively with the peer community and the social environment outside the home.

Abdul Hamid (2015) aimed to reveal the effectiveness of a behavioral program in reducing the severity of selective mutism and developing social competence among primary school students. The study was applied to a sample of six students whose ages ranged between six and eight years. In the city of Taif, the study used the Selective Mutism Scale for children as perceived by parents, the Selective Mutism Scale for children as perceived by teachers, the Social Competence List for Children as perceived by parents and teachers, the Stanford Interpersonal Intelligence Scale and the behavioral program for children. The study found statistically significant differences between the average ranks of the experimental group's scores on the scale of selective mutism and social competence (as perceived by parents and teachers) in the post and follow-up measurements. It also concluded that training with the behavioral program has a positive effect in reducing the severity of selective mutism and developing social competence among first-year primary school students.

Shaarawi (2016) investigated alleviating the severity of selective mutism in primary school children, verifying the effectiveness of a counseling program in alleviating the severity of selective mutism in children, and educating parents and teachers about the causes of the disorder and its impact on the child in the primary stage. The study was applied to a sample of seven students (4 females and 3 males) with selective mutism, including primary school students, their teachers, and their parents. The study used several tools, including: the Selective Mutism Scale for Children (photo of the teacher - photo of the mother), and the counseling program. The study found that the program was effective in alleviating the severity of selective mutism.

The study of Gad Al-Rab (2016) aimed to reduce the symptoms of selective mutism among kindergarten children by giving the children adaptive behavior skills by subjecting them to a cognitive-behavioral program. The study employed a questionnaire for diagnosing selective mutism for kindergarten children as perceived by parents and teachers, an adaptive behavior scale, and a cognitive-behavioral program for developing some adaptive behavior skills for kindergarten children with selective mutism. The study sample consisted of 22 male and female children, the sample was divided into two equal groups, experimental and a control group. The results of the study found that there were statistically significant differences between the average ranks of the children of the experimental group in the pre- and post-applications of the questionnaire for diagnosing selective mutism for kindergarten children, as perceived by parents and teachers, in favor of the post-application. There were also statistically significant differences between the average scores of the children of the experimental group in the pre- and post-applications of the adaptive behavior scale for kindergarten children, in favor of the post-application.

Comment on previous studies:

These previous studies showed positive efforts in exploring and providing therapeutic programs to alleviate selective mutism in elementary school children. Al-Najjar (2015) demonstrated the effectiveness of a proposed treatment program in improving social interaction and alleviating the symptoms of SMD for the participating girl. In Abdul Hamid's (2015) study, the results showed the effectiveness of a behavioral program in reducing the severity of selective mutism and enhancing social competence for primary school students. As for Shaarawi's study (2016), it reviewed the effectiveness of a counseling program in alleviating the severity of selective mutism in children and educating parents and teachers about the causes of the disorder, while achieving success in improving the condition. Jad Al-Rab's (2016) study also highlighted the effectiveness of a cognitive-behavioral program in improving adaptive behavior skills in kindergartners with selective mutism.

Overall, the introduction of these programs reflects a growing interest in improving the lives of pupils suffering from selective mutism and alleviating social pressures on them. Although these studies may be limited by sample size and implementation context, they represent positive steps toward a better understanding of the nature and treatment of

SMD in the context of primary education. This current study is distinguished by its focus on the use of audio and video recordings as tools to reduce the severity of selective mutism among primary school students. The use of modern technology such as audio and video recordings reflects developments in the field of treating SMD s. Taking advantage of modern technological means can help to improve the effectiveness of therapeutic programs with the aim of improving social interaction for children with SMD , helping them develop the skills necessary to deal with social situations SMD .

Study methodology and procedures:

First: curriculum study and experimental design:

The researcher adopted a quasi-experimental approach with two equal groups (the control group and the experimental group). This approach requires dealing with two basic variables, one independent and the other dependent. Activity-based audio and video recordings served as the independent variable, while selective mutism is considered the dependent variable, the Selective Mutism Scale was applied after a period of one month from the post-measurement to obtain the scores for the follow-up measurement.

Secondly: study sample

1. A sample to verify the psychometric properties of tools the study: This sample consisted of (66) primary school students, who were selected from primary schools affiliated with the Al-Baha Region Education Department, and their chronological ages ranged between (10-11) years, with an average age of (10.47).Years And standard deviation (0.503).

2. Basic sample: The sample consisted of (20) students from the fifth grade of primary school in schools located in the Al-Baha Region Education Department, whose chronological ages ranged from(10 to 11)year, with an average age of (10.55) years and a standard deviation of (0.510). The sample was divided into two groups: experimental (n = 10 students) and control (n = 10 students). The following table shows the statistical indicators for the final sample.

Table 1: Statistical indicators for the basic (experimental) sample.

Standard deviation of chronological age	Their average chronological age	n	Groups
0.516	10.60	10	Experimental group
0.527	10.50	10	Control group
0.510	10.55	20	Basic sample

Homogeneity and equivalence were conducted between the two groups on the variables: chronological age and selective mutism, and the results reached are as follows:

1. Parity in terms of chronological age: The researcher used the Mann-Whitney test for two independent samples Mann-Whitney to verify the significance of the differences between the experimental and control groups in chronological age, the ages of the sample members ranged between (10-11) years with an average of (10.55) years, and a standard deviation of (0.510). Table (2) shows the results of parity between the two groups in Chronological age.

Table 2: Mann-Whitney test results Mann-Whitney to calculate the differences between the experimental and control groups in chronological age and their significance.

Statistical significance	value "z"	Total ranks	Average rank	the group	variable
(0.661)	-0.438	110.00	11.00	Experimental before me	Chronological age
Not statistically significant		100.00	10.00	An officer before me	

It is clear from the results in Table 2 that there is no statistically significant difference between the average scores of the members of the experimental and control groups in terms of chronological age indicating that the two groups are equal in chronological age.

2. Parity between the two groups in the pre-application of the Selective Mutism Scale and its sub-dimensions: To verify the equality between the scores of the experimental and control groups in the pre-application of the Selective Mutism Scale, the Mann-Whitney test for independent samples was used. To know the significance of the differences between the average ranks of the two research groups in selective mutism, Table (3) shows the results of the Mann-Whitney test:

Table 3: Equivalence between the experimental and control groups in the pre-measurement of the Selective Mutism Scale and its sub-dimensions.

Interpretation of significance	value (Z)	Mann-Whitney value (U)	Total ranks	Average rank	n	the group	The scale and its sub-dimensions
(0.969) Not statistically significant	-0.038	49.500	105.50	10.55	10	Experimental before me	First dimension (General features of mutism)
			104.50	10.45	10	An officer before me	
(0.939) Not statistically significant	-0.077	49,000	106.00	10.60	10	Experimental before me	The second dimension (Social interaction)
			104.00	10.40	10	An officer before me	
(0.877) Not statistically significant	-0.155	48,000	103.00	10.30	10	Experimental before me	third dimension (Language and Communication)
			107.00	10.70	10	An officer before me	
(0.878) Not statistically significant	-0.154	48,000	103.00	10.30	10	Experimental before me	Selective mutism scale as a whole
			107.00	10.70	10	An officer before me	

The results in Table 2 show that there are not statistically significant values, which indicates that there are no statistically significant differences between the average ranks of the scores of the experimental and control groups in the pre-measurement of the Selective mutism scale and its sub-dimensions (general characteristics of mutism, social interaction, language and communication). This result indicates that parity was achieved between the scores of the experimental and control groups in the pre-measurement of the Selective Mutism Scale.

Data collection tools:

Scale selective mutism for primary school students Prepared by: Researcher:

1. Determine the goal of the measure: The goal of the scale was determined to measure the selective mutism of primary school students using the three proposed dimensions of general features of silence, social interaction, language and communication. The researcher then reviewed the theoretical frameworks and previous Arabic and foreign studies that dealt with the variables of selective mutism as shown in the theoretical framework and in previous studies, as well as reviewing the different metrics that were used to measure it, such as the Selective Mutism Scale (Rodrigues., et al, 2024), the Selective Mutism Scale (Gensthaler., et al, 2020), the Selective Mutism Questionnaire (Oerbeck., et al, 2020), and the Selective Mutism Scale (Al-Dhahabi , 2017).

2. Formulation of the scale in its initial form: By referring to theoretical frameworks, previous studies, and standards, the procedural definition of selective mutism was determined, and the scale vocabulary was formulated in a simple, ambiguity-free manner that suits the nature of the sample. **The scale** included (25) items, and the student's performance on these vocabulary items was evaluated in light of the stated dimensions (the general features of silence, social interaction, language, and communication).

3. Calculating the psychometric properties of the scale:

The researcher calculated the psychometric properties according to the following:

A. Validity of the arbitrators: The scale was presented to 10 professors who were arbitrators in educational technology, special education, education, and psychology. To determine the validity and integrity of the scale's items, their freedom from ambiguity, their connection to the scale, and their suitability to the study sample, it resulted in modifying some of the items and deleting five items. The researcher adopted a percentage of 90% for agreement between the arbitrators

B. Validity of the peripheral comparison: The validity of the two-sided comparison was calculated on a sample of (66) primary school students, using the Mann-Whitney test and non-parametric Mann-Whitney to check the significance of differences between two independent samples to verify the significance of the differences between the average scores of (18) high-performing students and (18) low-performing students on the selective mutism scale, with a 27% division into high and low performers. The results were as follows:

Table 4: results of the end-to-end comparison validity of the Selective Mutism Scale among primary school students.

Interpretation of significance	value (Z)	Mann-Whitney value (U)	Total ranks	Average rank	n	the group	The scale and its sub-dimensions
Statistically significant at 0.001	-5.095	1.500	172.50	9.58	18	Lowest performance	First dimension (General features of mutism)
			493.50	27.42	18	Highest performance	
Statistically significant at 0.001	-5.139	0.000	171.00	9.50	18	Lowest performance	The second dimension (Social interaction)
			495.00	27.50	18	Highest performance	
Statistically significant at 0.001	-5.135	0.000	171.00	9.50	18	Lowest performance	third dimension (Language and Communication)
			495.00	27.50	18	Highest performance	
Statistically significant at 0.001	-5.129	0.000	171.00	9.50	18	Lowest performance	Selective mutism scale as a whole
			495.00	27.50	18	Highest performance	

The results in Table (4) clearly show that values (z) calculated reached (-5.095, -5.139, -5.135, -5.129), which are statistically significant values at the level connotation (0.001) which indicates that there are statistically significant differences at the level connotation (0.001) between the average ranks of the scores of low- and high-performing students in the total score of the Selective Mutism Scale, and its sub-dimensions (general features of mutism , social interaction, language and communication) in the direction of the high-performing students. This result indicates the high discriminatory ability of the scale and the veracity of the peripheral comparison.

Second: Internal homogeneity of the scale:

Calculating the correlation coefficients between the items, the dimension score, and the total score of the scale: Pearson correlation coefficients were calculated between vocabulary and the degree of the dimension to which it belongs, and the total score of the scale, on a sample of (66) primary school students. To identify the extent of homogeneity of the scale’s items, and whether it measures one trait or multiple traits, Table (5) shows the values of the correlation coefficients between the items and the dimension score, and the scale’s total score.

Table 5: Pearson correlation coefficients between vocabulary and each of the sub dimensions and the Selective Mutism Scale as a whole.

Correlation coefficient with the total score of the scale	Dimension correlation coefficient	Single	Sub-dimension
0.700**	0.771**	1	First dimension (General features of mutism)
0.762**	0.815**	2	
0.795**	0.813**	3	
0.693**	0.774**	4	
0.631**	0.706**	5	
0.651**	0.691**	6	
0.751**	0.791**	7	The second dimension (Social interaction)
0.759**	0.764**	8	
0.738**	0.756**	9	
0.766**	0.802**	10	
0.706**	0.796**	11	
0.505**	0.600**	12	
0.670**	0.747**	13	The third dimension (language and communication)
0.622**	0.647**	14	
0.738**	0.753**	15	
0.643**	0.701**	16	
0.793**	0.797**	17	
0.770**	0.801**	18	
0.826**	0.870**	19	
0.721**	0.777**	20	

(*). Significant at the 0.05 level (**). D at the 0.01 level

Table (5) shows that all Pearson correlation coefficients between vocabulary scores and each of the sub-dimensions (general features of mutism, social interaction, language and communication) and the total score of the scale are statistically significant at the significance level (0.01). This confirms the internal consistency and homogeneity of the scale items and the validity of the scale for use in the present study. Thus, the number of items in the scale remains (20) after internal consistency was performed on it.

1. Calculating correlation coefficients between the sub-dimensions and the total score of the scale:

Pearson correlation coefficients were calculated between the scores of the sub-dimensions and the total score of the scale, on a sample of (66) primary school students. Table (6) shows the correlation coefficients between the scores of the sub-dimensions and some of them, and the total score of the scale.

Table 6: Correlation coefficients between the sub dimensions and the total score of the Selective Mutism Scale.

Selective mutism scale as a whole	Language and communication	Social interaction	General features of mutism	The scale and its sub-dimensions
0.926**	0.834**	0.783**	1	General features of mutism
0.931**	0.836**	1	0.783**	Social interaction
0.954**	1	0.836**	0.834**	Language and communication
1	0.954**	0.931**	0.926**	Selective mutism scale as a whole

(*). Significant at the 0.05 level (**). D at the 0.01 level

It is clear from results table (6) the presence of positive and statistically significant correlation coefficients at the level of connotation (0.01) between sub-dimensions (General features of mutism, social interaction, language and communication) and each other, and between them and the total score for the Selective Mutism Scale among primary school students has good correlation coefficients, and this indicates the homogeneity and consistency of the scale in terms of sub-dimensions.

Third: The stability of the scale

The researcher verified the stability of the scale using the following methods: split-half (using the two Guttman equations and the Spearman-Brown length correction) and the Cronbach's alpha coefficient on a sample of primary school students. The results were as follows:

Cronbach's alpha method Cronbach Alpha

The researcher applied the scale to a sample of (66) primary school students, then the values of the test's reliability coefficients were calculated using the Cronbach's alpha method, and the results were as follows:

Table 7: Reliability coefficients of the Selective Mutism Scale (Cronbach's alpha coefficient).

Cronbach's alpha coefficient	Number of vocabulary	The scale and its sub-dimensions
0.855	6	The first dimension (general characteristics of mutism)
0.870	7	The second dimension (social interaction)
0.879	7	The third dimension (language and communication)
0.948	20	Selective mutism scale as a whole

Table 7 reports Cronbach's alpha reliability coefficients are high and greater than (0.60), indicating that the scale has a high degree of reliability and stability.

Half split method Half-Split

The correlation coefficient (split-half reliability coefficient) was calculated between the two halves of the test for each of the sub-dimensions and the scale as a whole, using the two Guttman equations and the Spearman-Brown length correction on a sample of (66) primary school students.

Table 8: Reliability coefficients of the Selective Mutism Scale and its sub-dimensions (split-half method).

Guttman coefficient	Spearman-Brown Retail Laboratories		Number of vocabularies	The scale and its sub-dimensions
	after correcting	Before correction		
0.841	0.846	0.733	6	First dimension (General features of mutism)
0.816	0.838	0.718	7	The second dimension (social interaction)
0.865	0.869	0.765	7	third dimension (Language and Communication)
0.941	0.941	0.888	20	Selective mutism scale as a whole

Table 8 reports the split-half stability coefficients using the Spearman-Brown and Guttman equations are acceptable and greater than (0.60) and so indicates that the scale has a high degree of reliability and stability.

Description of the scale in its final form and how to correct it:

The current scale consists of (20) items, the answer on the scale ranges into five levels (always, often, sometimes, rarely, never), and the scores are (5-4- 3- 2- 1)Respectively in the case of positive statements, and (1-2-3-4-5) in the case of negative statements negativity. Therefore, the maximum score of the scale becomes (20 x 5 = 100) and indicates a low level of selective mutism among primary school students, and the minimum score of the scale becomes (20 x 1 = 20) and indicates a high level of selective mutism among them.

Secondly: Activities based on audio and video recordings Researcher preparation: Program goal

Alleviating the severity of selective mutism among primary school students by relying on a program based on audio and video recording activities

Preparing and building the program

- 1-Reviewing literature and previous studies that dealt with training programs to reduce the severity of selective mutism among primary school students.
- 2- Relying on various techniques represented in activities recording the sound and video.
- 3- The evaluation methods and methods used in the program were diversified and characterized by continuity. It was not limited to the summative evaluation only, but rather formative and formative evaluation methods were used during the course of the training sessions.
- 4- The program was presented after it was prepared to a group of Professors specializing in Educational technologies to obtain their opinions on the extent of the sequence and interconnectedness of the program’s steps and sessions, and the appropriateness of the aim of the study, as well as the suitability of the techniques and strategies used. The researcher made whatever modifications he was asked to do, whether by deletion, addition, or rephrasing.

Program duration

In its final form, the program consisted of (15) training sessions, two sessions per week for students in the experimental group, and the program continued for approximately two months during the academic year 1445 AH.

Statistical methods used

The researcher used several statistical methods to process the data and test the validity of the hypotheses, which are: arithmetic means, standard deviations, Mann-Whitney test, Nonparametric Mann-Whitney, Nonparametric Wilcoxon test, Wilcoxon Test, Cohen's effect size (Cohen's d), split-half (Spearman-Brown, Guttman equations), Pearson's linear correlation coefficient, and Cronbach's alpha coefficient.

1. Validity test: First hypothesis

The first hypothesis stated that “there are statistically significant differences between the average ranks of the scores of the experimental and control groups in the post-measurement of the Selective Mutism Scale and its sub-dimensions in favor of the experimental group.” To verify the validity of this hypothesis, the “Mann-Whitney” test was used for independent samples, in order to reveal the significance of the differences between the average ranks of the scores of the experimental and control group members in the post-measurement of the Selective Mutism Scale, and Table 9 shows the results of this test:

Table 9: Results of the Mann-Whitney test to detect the significance of the differences between the average ranks of the scores of the experimental and control group members in the post-measurement of the Selective Mutism Scale.

effect size (r)	value (Z)	Mann-Whitney value (U)	Total ranks	Average rank	n	the group	The scale and its sub-dimensions
(0.754) strong	-3.374**	5.500	149.50	14.95	10	Post hoc experimental	First dimension (General features of mutism)
			60.50	6.05	10	Officer after me	
(0.788) strong	-3.524***	3.500	151.50	15.15	10	Post hoc experimental	The second dimension (Social interaction)
			58.50	5.85	10	Officer after me	
(0.781) strong	-3.493***	4.000	151.00	15.10	10	Post hoc experimental	third dimension (Language and Communication)
			59.00	5.90	10	Officer after me	
(0.846) strong	-3.782***	0.000	155.00	15.50	10	Post hoc experimental	Selective mutism scale as a whole
			55.00	5.50	10	Officer after me	

(**). It denotes a significance level of 0.01(***). It represents a significance level of 0.001

It is clear from the results in Table (9) that the first hypothesis was verified and correct, as the values reached ""Z" calculated (-3.374, -3.524, -3.493, -3.782) at the level of the total score of the Selective Mutism Scale and its sub-dimensions, which are statistically significant values at two significance levels (0.01, 0.001) This indicates the presence of statistically significant differences at two significance levels (0.01, 0.001) between the average ranks of the scores of the control and experimental groups in the post-measurement of the Selective Mutism Scale and its sub-dimensions (general features of mutism , social interaction, language and communication) in favor of the experimental group. It is also noted from the previous table that the effect size (r) values reached (0.754, 0.788, 0.781, 0.846), which are large values and this indicates that the program has great effectiveness in reducing selective mutism among students participating in the experimental group compared to the control group that was not exposed to the program.

2.Validity test: Second hypothesis

This hypothesis states that "there are statistically significant differences between the average ranks of the scores of the experimental group members in the pre- and post-measurements of the Selective Mutism Scale and its sub-dimensions in favor of the post-measurement." To verify the validity of this hypothesis, the "Wilcoxon" test for correlated samples was used, in order to reveal the significance of the differences between the average scores of the experimental group members in the pre- and post-measurements of the Selective Mutism Scale, and Table (10) shows the results of this test:

Table 10: Results of the Wilcoxon test to detect the significance of the differences between the average ranks of the scores of the experimental group members in the pre- and post-measurements of the Selective Mutism Scale.

Effect size(r)	value "z"	Total ranks	Average rank	the number	Rank direction	The scale and its sub-dimensions
(0.597) strong	-2.668**	0.00	0.00	0	Negative	First dimension (General features of mutism)
		45.00	5.00	9	Positive	
				1	Equality	
(0.628) strong	-2.809**	0.00	0.00	0	Negative	The second dimension (Social interaction)
		55.00	5.50	10	Positive	
				0	Equality	
(0.627) strong	-2.805**	0.00	0.00	0	Negative	third dimension (Language and Communication)
		55.00	5.50	10	Positive	
				0	Equality	
(0.627) strong	-2.805**	0.00	0.00	0	Negative	Selective mutism scale as a whole
		55.00	5.50	10	Positive	
				0	Equality	

(*). It denotes a significance level of 0.05(**). It denotes a significance level of 0.01

Table (10) shows the second hypothesis was verified and correct, as the values of "Z" calculated (-2.668, -2.809, -2.805, -2.805) at the level of the total score of the Selective Mutism Scale and its sub-dimensions, which are statistically significant values at the 0.01 level of significance. This indicates the presence of statistically significant differences at the level of connotation (0.01) Between the average ranks of the scores of the experimental group members in the pre- and post-measurements of the total score of the Selective Mutism Scale and its sub-dimensions (general features of mutism , social interaction, language and communication) in the direction of the post-measurement, as it is noted from the previous table that the effect size values (r) amounted to (0.597, 0.628, 0.627, 0.627), which are large values that indicate that the program has great effectiveness in reducing selective mutism among the experimental group.

3. Validity test: Third hypothesis

This hypothesis stated that "there are no statistically significant differences between the average ranks of the experimental group members' scores in the post and follow-up measurements of the Selective Mutism Scale." To verify the validity of this hypothesis, the Wilcoxon test for linked samples was used to reveal the significance of the differences between the average scores of the individuals in the experimental group. The scores of the experimental group members in the post and follow-up measurements of the Selective Mutism Scale, and Table (11) shows the results of this test:

Table 11: Results of the Wilcoxon test to detect the significance of the differences between the average ranks of the scores of the experimental group members in the post and follow-up measurements of the Selective Mutism Scale.

Statistical significance	value "z"	Total ranks	Average rank	the number	Rank direction	The scale and its sub-dimensions
(0.261) Not statistically significant	-1.124	10.00	2.50	4	Negative	First dimension (General features of mutism)
		26.00	6.50	4	Positive	
				2	Equality	
(0.512) Not statistically significant	-0.655	17.00	4.25	4	Negative	The second dimension (Social interaction)
		28.00	5.60	5	Positive	
				1	Equality	
(0.779) Not statistically significant	-0.281	16.00	5.33	3	Negative	third dimension (Language and Communication)
		20.00	4.00	5	Positive	
				2	Equality	
(0.414) Not statistically significant	-0.817	19.50	4.88	4	Negative	Selective mutism scale as a whole
		35.50	5.92	6	Positive	
				0	Equality	

The third hypothesis, as shown in Table (11), was verified and correct, as the values of "Z" was calculated (-1.124, -0.655, -0.281, -0.817) at the level of the total score of the Selective Mutism Scale and its sub-dimensions. These values are not statistically significant, and this indicates that there are no statistically significant differences between the average ranks of the scores of the experimental group members in the two post-measurements. The tracking of the Selective Mutism Scale and its sub-dimensions (general features of mutism, social interaction, language and communication), which indicates the stability of the effect of the training program after a month of its implementation.

5. DISCUSSION

Discussing the results of the first and second hypotheses:

The researcher explains the improvement represented by the reduction in selective mutism for primary school students that occurred in the experimental group compared to the control group in the post-measurement in favor of the experimental group, and in the pre- and post-measurements of the experimental group in favor of the post-measurement as follows:

The session "Explore stories with audio" helped to motivate students to listen and express their ideas creatively, enhancing critical thinking skills and interacting with stories, with the aims of reducing selective mutism through the use of an audio recording of a short story titled "A Journey in Search of Lost Voices" followed by discussion. Creative writing was then used as the students were asked to write their own short story based on a specific topic and then record their personal stories using phones or designated devices.

The session "Exploring Stories Using Sounds and Words" contributed to motivating students to listen and express their ideas creatively using sound and writing, enhancing oral and written expression skills, and alleviating selective mutism by listening to stories. The techniques included playing an audio recording of a short story titled "The Journey of a Lost Voice," asking stimulating questions to encourage students to verbally express what they heard, providing a period for students to record their actual responses using audio, and motivating students to write summaries of the story using writing. The session "Recording Our Daily Experiences with Our Voices" contributed to encouraging students to express

their daily experiences in a creative way, for example by motivating them to use music or background sounds to give their recordings a creative atmosphere, thereby enhancing communication and self-expression skills, and alleviating selective mutism using voices by providing instructions on how to use phones or video cameras effectively. The researcher explains the improvement in reducing the selective mutism of primary school students that occurred in the experimental group as being due to the following reasons:

- **Stimulating creativity and interaction:**

The "Exploring Stories with Audio" and "Exploring Stories with Sounds and Words" sessions provided opportunities for students to express their ideas creatively, whether through writing or using audio. This motivated students and increased their participation and interaction in audio activities.

- **Use of technology:** The use of phones and devices designed to record personal stories has made it easier for students to convert their ideas into audio, making the expression process easier and more enjoyable. Technology has also made it possible to share stories more widely, which has increased students' enthusiasm and pride.

- **Stimulating oral and written communication:** "Exploring stories with sounds and words" and "Recording our daily experiences with our voices" sessions focus on enhancing oral and written communication skills. This focus has helped develop students' abilities to express themselves in multiple ways, leading to improved overall communication.

- **Giving students' ownership of stories:** Students were helped to write and record their personal stories, creating an opportunity for them to freely express their thoughts and experiences. This sense of ownership and personal influence helped motivate them to participate more.

- **Adding creativity:** The "Recording Our Everyday Experiences with Our Voices" session encouraged students to use music or background sounds to give their recordings a creative atmosphere. This can make the activity more fun and interesting, thus increasing the level of engagement.

- The **"Watch and Share: Inspiring Ideas with Video"** session allowed students to actively participate and interact after watching video clips, enhancing critical thinking and analysis skills, alleviating the severity of selective mutism by encouraging communication, by explaining the importance of watching video clips and participating afterwards, and presenting Short and interesting videos, choosing clips that are inspiring and encourage critical thinking.

- The **"Audio Conversations: Our Participation is Heard"** session worked with students through recorded group conversations, enhancing speaking and listening skills, and alleviating the severity of selective silence through the audio communication experience.

- The session **"Dialogue Discussions: Your Voice Matters"** helped students to participate in group discussions on specific topics, enhancing thinking and analysis skills, and alleviating the severity of selective silence through the experience of interaction and dialogue.

- The **"Voice of Creativity: Recording and Sharing Opinions"** session assisted students to audio-record their opinions and exchange them with others to alleviate the severity of Selective silence.

- Likewise, the "Challenge Yourself: Speaking in Front of the Camera" session encouraged students to overcome the severity of Selective silence by practicing speaking in front of the camera.

- As for the **"Your Voice in the Camera"** session: The "Selective Mutism Challenge" helped students to submit short reports or share information in front of the camera to alleviate the severity of selective mutism and enhance communication skills. As for the "Voice of Creativity: Voice Competitions to Stimulate Communication" session, it provided ways to motivate students to communicate and express themselves through voice competitions. The "Short Competitions" session stimulated communication and alleviated the severity of selective silence by holding short competitions that included recording quick responses to questions or challenges. The "Audio Recording Activities" session provided students to use audio recordings as a means of expressing themselves and reducing the severity of selective mutism. The "Video Recording Activities" sessions provide opportunities for the students to enhance communication and expression skills using video recordings.

The researcher explains the improvement in reducing the selective mutism of primary school students that occurred in the experimental group for the following reasons:

- **Diversity of activities:** Various sessions such as "Watch and Share," "Audio Conversations," "Dialogue Discussions," "Challenge Yourself," "Voice of Creativity," and "Voice Competitions" provided different opportunities for students to participate in different ways according to their personal interests and skills.

- **Using technology:** Relying on audio and video recording helped provide a more attractive and flexible means of expression for students. The ability to use a camera, microphone or mobile phones has removed technical barriers and increased the possibility of participation.

- **Stimulating positive competition:** Short competitions and challenges sessions encourage students to participate more to overcome challenges and achieve a personal achievement, which enhances the spirit of positive competition and encourages communication.
- **Enhancing thinking and analysis skills:** "Watch and Share," "Dialogue Discussions," and "Challenge Yourself" sessions allowed the students to develop critical thinking and analysis skills, as videos and conversations were used as a means to stimulate discussion and explore their ideas.
- **Encouraging group communication:** "Audio chats" and "dialogue discussions" sessions highlighted group communication and participation in recorded conversations, which enhanced listening and speaking skills and helped reduce the severity of selective mutism.
- **Paying attention to creative elements:** sessions that stimulated audio and video recording to express ideas have encouraged students to use creativity and diversity in presenting their ideas, which contributed to motivating them to participate more.

Discussing the results of the third hypothesis

There are no statistically significant differences between the average ranks of the experimental group members' scores in the post- and follow-up measurements of the Selective Mutism Scale and its sub-dimensions (general characteristics of mutism, social interaction, language and communication), which indicates the stability of the effect of the training program after a month of its implementation.

Educational recommendations

- 1-It is preferable to incorporate audio and video recording techniques as part of routine teaching methods for students at the primary stage as this has been shown to enhance their interaction and effective participation.
- 2-Efforts should be directed towards developing primary school students' communication skills. The use of audio and video recordings can improve their ability to express their thoughts and opinions in a clear and understandable way.
- 3- Pupils' active participation must be encouraged in activities and discussions using audio and video recordings, as doing so helps motivate them to express themselves better.
- 4-It is preferable to focus on monitoring each student's progress individually using recordings as in doing so helps to identify strengths and weaknesses and enables teachers to provide the necessary support.
- 5- Use recordings to provide individual support to primary school students who show difficulties in expressing themselves, while providing additional opportunities to develop communication skills.
- 6- Promoting social interaction between primary school students using audio and video recordings; which contributes to building positive relationships and stimulating cooperation.
- 7-It is desirable to provide additional training to teachers on how to use audio and video recordings effectively in the classroom, and how to analyze and evaluate student performance.

Future research proposals:

- 1-Study the impact of using modern smart technology such as artificial intelligence and big data analysis in improving the effectiveness of audio and video recording programs in education.
- 2- Study and design customized enrollment programs based on the needs of individual students; this allows their educational experience to be improved.
- 3-Examine how effective supervision and guidance can enhance the impact of enrollment programs in developing students' skills and enhancing their engagement.
- 4-Examining the impact of recording programs on the social interaction and psychological aspects of students, including enhancing self-confidence and participation in the classroom community.
- 5- Studying how to use audio and visual analysis techniques to accurately estimate student interactions and benefit more from the data derived from these programs.
- 6-Study how audio and video recording software can be adapted to suit different learning environments, whether physical or virtual.
- 7-Analyze teacher-student interaction using audio and video recordings to improve teaching strategies and understand how they impact student learning.

5. CONCLUSION

The findings of this study demonstrate the effectiveness of a structured training program utilizing audio and video recording techniques in reducing selective mutism among primary school students. The experimental group exhibited significant improvements compared to the control group, with notable reductions in selective mutism observed in post-measurements. These improvements were attributed to the program's innovative and interactive sessions, which fostered creativity, enhanced communication skills, and encouraged active participation. Key results include:

1. **Enhanced Creativity and Interaction:** Sessions such as "Exploring Stories with Audio" and "Exploring Stories Using Sounds and Words" provided students with opportunities to express themselves creatively, both orally and in writing. This approach not only motivated students but also increased their engagement and interaction during activities.
2. **Effective Use of Technology:** The integration of audio and video recording tools, such as smartphones and designated devices, facilitated easier and more enjoyable self-expression. This technological component allowed students to share their stories widely, fostering a sense of pride and enthusiasm.
3. **Improved Communication Skills:** Activities like "Recording Our Daily Experiences with Our Voices" and "Dialogue Discussions: Your Voice Matters" emphasized oral and written communication, enabling students to develop their ability to express thoughts and ideas clearly and confidently.
4. **Ownership and Personalization:** Encouraging students to create and record their own stories instilled a sense of ownership and autonomy, which significantly contributed to their motivation and participation.
5. **Diverse and Engaging Activities:** The program's varied sessions, including "Watch and Share: Inspiring Ideas with Video," "Audio Conversations: Our Participation is Heard," and "Voice of Creativity: Recording and Sharing Opinions," catered to different interests and skills, ensuring sustained engagement and participation.
6. **Long-Term Stability of Results:** The absence of statistically significant differences between post- and follow-up measurements indicates the lasting impact of the training program, with improvements in selective mutism remaining stable one month after implementation.

Educational Implications

The study underscores the importance of incorporating audio and video recording techniques into primary education to enhance student engagement, communication, and self-expression. Teachers are encouraged to adopt these methods to support individual student progress, foster social interaction, and provide tailored support for students facing communication challenges. Additionally, professional development for educators on the effective use of these technologies is recommended to maximize their impact in the classroom.

Future Research Directions

Further studies should explore the integration of advanced technologies, such as artificial intelligence and big data analytics, to optimize the effectiveness of audio and video recording programs. Research should also focus on designing personalized programs tailored to individual student needs, examining the psychological and social benefits of such interventions, and adapting these techniques for diverse learning environments, including virtual classrooms. Analyzing teacher-student interactions through recordings could also provide valuable insights for refining teaching strategies and improving student outcomes.

6. REFERENCES

- Abdul Hamid, Saeed. (2015). The effectiveness of a behavioral program in reducing the severity of selective mutism and developing social competence among primary school students. *Journal of Special Education, Zagazig University*, (13), 309-371.
- Al-Najjar, Fatima. (2015AD). The effectiveness of a proposed treatment program in alleviating the symptoms of selective mutism: a case study of a girl in primary school. *Journal of the Faculty of Education, Al-Azhar University*, 34(162), 433-482.
- Alyanak, B., Kılınçaslan, A., Harmancı, H. S., Demirkaya, S. K., Yurtbay, T., & Vehid, H. E. (2013). Parental adjustment, parenting attitudes and emotional and behavioral problems in children with selective mutism. *Journal of Anxiety Disorders*, 27(1), 9-15.
- Bergman, R. L., Piacentini, J., & McCracken, J. T. (2002). Prevalence and description of selective mutism in a school-based sample. *Journal of the American Academy of Child & Adolescent Psychiatry*, 41(8), 938-946.
- Buchbinder, O., Brisard, S., Butler, R., & McCrone, S. (2021). Preservice secondary mathematics teachers' reflective noticing from 360-degree video recordings of their own teaching. *Journal of Technology and Teacher Education*, 29(3), 279-308.
- de Jonge, M. V., Nibbering, N., Brand, I., & van der Voort, A. (2024). It's about more than just talking; Exploring computer-mediated communication in adolescents with selective mutism. *Journal of communication disorders*, 107, 106389.
- Gad Al-Rab, Ghada. (2016AD). The effectiveness of a cognitive-behavioral program to develop some adaptive behavior skills among kindergarten children with confusion. *Arab Studies in Education and Psychology, Arab Educators Association*, (71), 185-254.
- Hart, R. G. S. (2010). Using video self-modelling to teach new skills to children with social interaction and communication difficulties. *Children & Schools*, 34(4), 222-230.
- Hung, S. L., Spencer, M. S., & Dronamraju, R. (2012). Selective mutism: Practice and intervention strategies for children. *Children & Schools*, 34(4), 222-230.
- Jaber, Abdel Hamid, and Kafafi, Aladdin. (1990). *Dictionary of psychology and psychiatry*. Part 3, Cairo: Dar Al Nahda Al Arabiya.
- Koskela, M., Ståhlberg, T., Yunus, W. M. A. W. M., & Sourander, A. (2023). Long-term outcomes of selective mutism: a systematic literature review. *BMC psychiatry*, 23(1), 779.
- Kristensen, H. (2001). Multiple informants' report of emotional and behavioural problems in a nation-wide sample of selective mute children and controls. *European Child & Adolescent Psychiatry*, 10(2), 135-142.
- Little, S. G., Montes, L. K., Swangler, J., & Akin-Little, A. (2019). Video-based interventions for children with autism spectrum disorder.
- McCoy, K., & Hermansen, E. (2007). Video modeling for individuals with autism: A review of model types and effects. *Education and treatment of children*, 183-213.
- McInnes, A., Fung, D., Manassis, K., Fiksenbaum, L., & Tannock, R. (2004). Narrative Skills in Children With Selective Mutism.
- Mulligan, C. A., Hale, J. B., & Shipon-Blum, E. (2015). Selective mutism: identification of subtypes and implications for treatment. *Journal of education and human development*, 4(1), 79-96.
- Phillips, D. N. (2011). *Efficacy of video modeling for treatment of selective mutism in children* (Doctoral dissertation, University of South Carolina).
- Regan, H., & Howe, J. (2017). Video self-modelling: an intervention for children with behavioural difficulties. *Educational Psychology in Practice*, 33(1), 93-102.
- Reitman, J., Reitman, A., & Xu, N. (2023). *Supporting your Child with Selective Mutism: A Practical Guide for School, Home, and in the Community*. Taylor & Francis

- Rodrigues Pereira, C., Ensink, J. B., Güldner, M. G., Kan, K. J., De Jonge, M. V., Lindauer, R. J., & Utens, E. M. (2024). The validation of the selective mutism questionnaire for use in the Dutch population. *Child Psychiatry & Human Development*, 55(1), 82-93.
- Rodrigues, C., Ensink, J. B., Güldner, M. G., Lindauer, R. J., De Jonge, M. V., & Utens, E. M. (2023). Diagnosing selective mutism: a critical review of measures for clinical practice and research. *European Child & Adolescent Psychiatry*, 32(10), 1821-1839.
- Schwenck, C., Gensthaler, A., & Vogel, F. (2021). Anxiety levels in children with selective mutism and social anxiety disorder. *Current Psychology*, 40, 6006-6013.
- Schwenck, C., Gensthaler, A., Vogel, F., Pfeffermann, A., Laerum, S., & Stahl, J. (2022). Characteristics of person, place, and activity that trigger failure to speak in children with selective mutism. *European Child & Adolescent Psychiatry*, 31(9), 1419-1429.
- Shah, A., Banner, N., Heginbotham, C., & Fulford, B. (2014). 7. American Psychiatric Association (2013) Diagnostic and Statistical Manual of Mental Disorders, 5th edn. American Psychiatric Publishing, Arlington, VA. 8.
- Steinhausen, H. C., Wachter, M., Laimböck, K., & Metzke, C. W. (2006). A long-term outcome study of selective mutism in childhood. *Journal of Child Psychology and Psychiatry*, 47(7), 751-756.



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