DRAMA THERAPY AS AN INTERVENTION TO SUPPORT SOCIAL AWARENESS IN AUTISTIC CHILDREN: A CASE SERIES IN GUANGXI, CHINA

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ABSTRACT

This paper investigates the effect of drama therapy as a form of intervention to improve social awareness of children with autism from between the ages of 3-8 years old at the Guangxi Special Children Care Service Center in Guangxi China. Using an experimental methodology, 5 autistic children are chosen based on a specific level of support for ASD disorder from DSM-1 to DSM-5. A 6-month drama treatment intervention experiment is carried out where SRS 2nd ed. Scale for Autism, Emotional Recognition Test for Autism, Development-Based Behavioral Assessment System for Children with Autism was used to record the changes before and after the intervention. The experiment involves interviewing the parents of these autistic children through in-depth interviews as well as experts' observation of the changes that form the data for this research. There are 3 phases of observation that are pre-, progressive and post-tests after drama therapy where the data are coded and triangulated with expert's as well as parental observations to be coded in themes and sub-themes according to case-study in qualitative research methodology to explore the effect of drama therapy. This paper however, will focus only on social awareness in children with autism. The findings of this data hope to promote a new innovative method to successfully educate and improve social awareness in children with autism.

Keywords: Drama Therapy, Autism, China, Interpretive Phenomenological Analysis

INTRODUCTION

In May 2013, the American Psychiatric Association published the Diagnostic and Statistical Manual of Mental Disorders (5th edition) and combined all types of ASD disorders into one term which is "Autism Spectrum Disorders" or ASD, an abbreviation that will be used in this article henceforth. Autism Spectrum Disorder (ASD) is a developmental disorder described as having a wide range of features and manifestations. It is generally believed that the pathogenesis of ASD is related to genetics, neurobiology, development and environment. Because of individual differences in intelligence and motor ability, there is great variability in the performance of individuals with ASD. Among the diverse features of ASD are three core symptoms, which are widespread social interaction and communication abnormalities, verbal and non-verbal communication impairments, and restricted interests and repetitive behaviors (WHO, 2025). The World Health Organization (WHO) and Centers for Disease Control and Prevention (CDC) stress that this is a disorder and not an illness that concerns neurological development. Most sufferers have problems with social communication and interactions and the common signs are repetitive behavior that is connected to the lack of social awareness. This research article is concerned with the lack of social awareness in children with ASD from between the ages of 3-8 years of age in China.

The CDC defines the actions that is considered having a "lack of social awareness" in children with ASD as "avoiding or failing to maintain eye contact", "difficulty using or understanding non-verbal gestures and body language such as pointing, waving, facial expressions and body posture", difficulty recognizing, interpreting and expressing emotions"," "limited or no sharing of interest with others", "lack of attention", "difficulty initiating or sustaining social interactions", "stilted or no communication" (CDC, 2023). This research uses Social Responsiveness Scale 2nd ed. (SRS-2) to quantify the data collected from 12 week drama therapy intervention of 5 children with ASD from Guangxi Special Children Care Service Center in Guangxi China.

This article reports part of a larger scale research that includes 5 treatment subscales that include measuring social cognition, social communication, social motivation and imagination which is an additional aspect of SRS. The focus on Social awareness targets recognition and attention to social cues in this research. "Recognition" refers to noticing social norms and signals while "social cues" involve observing if the child with ASD can empathize with other's feelings. In order to capture the data, this research is divided to three phases where the first phase involves putting the 5 children through 12 weeks of dramatherapy that has been incorporated into their daily routine at the school and testing them using SRS and recording prior data using Autism Spectrum Quotient (AQ) done by trained staff at the school. This is followed by Phase 2 which involves capturing post data after drama therapy intervention and using both SRS and AQ as well as observation by 2 experts with the data corroborated with parents own observation.

PROBLEM STATEMENT

The number of reported ASD patients worldwide continues to grow. According to the survey by Rutter M. and Baron Cohen (1988), the global prevalence rate of autism spectrum disorder in the early 1940s and late 1980s was 4-5/10000. According to the World Health Organization (2023), approximately 1 in 100 children worldwide have autism. In the United States, a report released by the Centers for Disease Control and Prevention (CDC) in 2023 indicates that 1 in 36 (approximately 2.76%) 8-year-old children will be diagnosed with ASD in 2020). In the UK, there is a prevalence of 1% among children. In the Dutch population, the prevalence is between 60 and 100 per 10,000 children. According to the above statistics, the chances of being diagnosed as having ASD is even higher than cancer, diabetes and AIDS amongst children. As

such, there is an urgent need to find different methods of treatment or interventions to cope with the rise in children with ASD.

According to the second national census of the disabled in China, the ASD population in China currently accounts for 36.9% of the total disabled population in the country, of which children with ASD mental disabilities account for about 37%, estimated to be 40,000 people. According to data from the 2023 National Sample Survey of Persons with Disabilities (China Disabled Persons' Federation, 2023), the prevalence of autism among children aged 0-14 years in China is approximately 7 per 1,000, with an extrapolated total number of patients exceeding 3 million. This figure represents a significant increase from the 40,000 cases in the second national census of persons with disabilities in 2006, and is partly attributed to improved diagnostic capabilities (Chen Qiang et al., 2023). Drama therapy in China has been developing for over a decade, and Chinese researchers have entered the initial research phase, shifting from translating Western literature on the achievements of drama therapy to hiring Western experts to teach the field in China. However, there is still a significant gap between China's research results and those of Western countries. Currently, the practical application of drama therapy in China remains limited by several factors, including the availability of theoretical resources. This is especially true in particular with applying creative arts as a form of therapy for children with ASD. There is little research on the impact of creative arts such as drama play on social behavioral training on these children with ASD even though there have been many researches on the success of behavioral training through structured instruction in the past (Schneider et. al., 2006; Lyons & Fitzgerald, 2013; Bololia & William, 2022) but not in the Chinese cultural settings. Therefore, the study intends to fill this gap by investigating how drama therapy can enhance the social and interaction skills of children with autism in China.

This article aims to explore drama therapy as a form of intervention specifically for children aged between 6-8 years old based on a case study of 5 children from the Guangxi Special Children Care Service Center in Guangxi China. With permission from and their parents, the children underwent 12 weeks of drama therapy intervention. The data of the intervention was recorded using Social Reaction Scale 2nd (SRS-2) and the Autism Quotient (AQ) as instruments that collected both prior and post-intervention data from 5 children. The data was then triangulated with in-depth interviews with parents of the children post-drama therapy and observations by experts using Nvivo thematic coding analysis to validate and corroborate the research findings. This article will also focus on the impact of drama therapy on these children after the intervention in hopes of making drama therapy apart of formal therapy specifically for reversing the lack of social awareness among these children with ASD.

BACKGROUND

With the increase in the number of people diagnosed with ASD, the training and rehabilitation institutions are extremely popular and the price of treatment has increased. Because of the high numbers that are increasing daily, many children with ASD delay starting rehabilitation training until they are nearly 7 years old, which is extremely unfavorable for the early recovery of ASD children. Although majority of ASD treatment is offered by government however, most of the rehabilitation institutions in the Chinese market are private institutions that meet the requirements. There is a serious shortage of rehabilitation institutions, and the market cannot meet the urgent needs of intervention rehabilitation training for the ASD population. In addition, many parents in China do not have sufficient awareness of ASD. Most ASD children are diagnosed after the age of 3, and nearly 30% of ASD children are diagnosed for more than one year. In 2010, the China Disabled Persons' Federation proposed to carry out rehabilitation training for children with ASD in 31 pilot cities across the country (Chen, Q., & Xu, Y. ,2011). But overall, the rehabilitation situation of children with ASD in China is not optimistic. In short, the growing ASD population, the lack of professional ASD rehabilitation institutions, and the

serious shortage of professional and scientific ASD rehabilitation training methods are severe challenges for the rehabilitation treatment of ASD children in China.

CHINA'S DISABILITY POLICY

A major policy change for the world on autism was its inclusion in the Individuals with Disabilities Education Act (IDEA). The Act ensures that children with autism have access to appropriate education and related services that meet their unique needs. This policy change helps improve the lives of children with autism by ensuring they receive appropriate education and support. In China, since ASD was officially listed as a mental disability in China in 2006, the state and local governments have introduced targeted subsidy policies. Taking Beijing as an example, children with ASD aged 0-6 can enjoy a rehabilitation subsidy of 48,000 yuan provided by Beijing and the China Disabled Persons' Federation every year. In addition to the subsidy policy, the state has also issued corresponding policies for the enrollment education of children with ASD. In May 2016, the State Council promulgated the "Zero Rejection of Enrollment" policy for ASD, which was formally enacted in 2017 and implemented on May 1, 2019, providing a strong legal basis for ASD children to receive general education. In October 2017, with the release of the "Healthy China 2030" planning outline. The party and the state once again proposed in terms of policy that it is necessary to establish an integrated and medical-integrated exercise prescription library for different groups of people and disabled people with different physical conditions, and promote a new model of disease management and health services for disabled people (Ma, L., Dong, L., & Zheng, Y. ,2017).

LITERATURE REVIEW

The British Drama Therapy Association (1979) stated that drama therapy is "a method used to assist individuals to understand and alleviate social and psychological problems, mental disabilities and disabilities, and to promote creative structures of oral and physical communication in individuals and groups". Drama therapy emerged in the UK in the early 1920s with the acknowledgement of the therapeutic impact of theatre as a form of treatment by psychiatrist Jacob L. Moreno (2020). The focus was for treatment of mentally ill patients who would dramatize their lives as a form of purging. It was Peter Slade (1954) in his seminal work entitled *Child's Drama* (McGuin 2014) that first introduced drama into education and subsequently as a form of therapy that encouraged the children with development problems to develop empathy and build bridges in communication. His ideas influenced the development and importance of drama therapy in the United Kingdom from the 1960s onwards. His scope was broad to include all ages and all kinds of mental disorders without a specified model of treatment for autism as ASD was not as prevalent then compared to now. The techniques mentioned by these early founders of drama therapy was focused on the use of dramatic elements and techniques such as body games, sounds, myths and stories, role-playing, improvisation, and theater presentations to help clients vent their emotions. (Snow & D'Amico 2010). Subsequently, Blythe & Gunther (2011) published their research on using theater as a from of therapy for children with ASD. It differed from this research as the context of the investigation is a full musical theatre production which involved other adults and children while this research is conducted in a controlled school environment with trained experts. Moreover, Blyth & Gunther were focused how theatre can mitigate the stress factor, measuring the pre- and post-levels of oxytocin and cortisol of the children with ASD and not the efficacy of dramatherapy in encouraging social awareness in a child with ASD.

In China, although performing arts like Chinese dance, drama and rituals were all part of the historical cultural background beginning with Shang dynasty (Fu Jin Zhu [1956](2014),

performing arts was only viewed as a potential form of therapy in 2009 with (Zhou, X. B., & Yu, X. Y. ,2014) but like Xiaohui Wang and Zechun Ma (2025) later their focus was on the psychological impact of drama therapy on children in education. Drama as a form of therapy was first referred to as “Psychodrama” (Sang & Huang 2018) and relatively new, purportedly introduced to China by J. L. Moreno in the 1990s (Sang & Huang 2018) compared to the West but has since registered swift growth with the establishment of professional drama therapist groups. Liwen Ma (2018) conducted a research on a student who use drawing in a stage drama to express his feelings, Feng Mengyu (2019) looked at how drama can be used to teach adolescence moral education while Wang & Ma focused on how psychodrama is a useful tool for counseling in education. “Psychodrama” or “Drama therapy” as this article will refer to are similar in that they incorporate elements of acting into both forms of therapy. While “psychotherapy” is more focused on formalized mental health practices in the Chinese education system often delivered through the reversing of roles, mirroring and group enactments (Xiaohui Wang & Ma 2018), “drama therapy” is acknowledged as a form of creative arts therapy more informal and focused on the individual needs involving play, improvisation and narrative exploration (Liwen Ma 2018; Menyu Feng 20219 & APA 2023). Both are widely used in ordinary schools in kindergartens and primary schools to offer drama education activities to improve children's potential development. However, in special children's schools, the application is still relatively small, especially in the intervention research of preschool children with autism. (Ma 2018 & Feng 2019). Thus far, the researchers have all explored dramatherapy through the setting up of theatre productions and combining their analysis with neurological analyses.

This research differs in that, the drama therapy is carried out using picture books where the children can identify with the simple characters in the books while being taught to emulate them in particular situations to teach them social awareness. Moreover, this research is carried out continuously for 12 weeks in a controlled environment without the presence of others in a production theme. Neither was it carried out in a medical facility aiming for a relaxed and fun social environment to encourage learning among their peers. The tools for intervention are picture books with social themes picked out specially because it carries themes that generate social awareness such as accepting the rules of the game, interrupting others appropriately and asking for help. These picture books are specially selected as they categorize social skills according to difficulty level, presenting social actions in a step-by-step manner. Through lively and engaging illustrations, they show children examples of appropriate social behaviors and explain social skills. In 2015, the National Autism Center's ‘National Standards Project’ identified social story intervention as one of fourteen scientifically validated methods for supporting children and adolescents under 22 years of age (Zhang, R. N., 2022). Social stories were first introduced by American scholar Gray in 1991, initially used in treating children with autism. By creating scenarios within social stories, they improve the social skills of children with autism. These short narrative texts are written from the children's perspective, helping them understand others or situations (Li, Y. W., 2023), as well as their comprehension and practice of social behaviors (Luo, X. L., 2020). Additionally, a few Chinese researchers have used alternative approaches to presenting social stories, such as musical adaptations or combining them with other interventions. Examples include merging social story intervention with physical activity (Wang, J., 2020) or role-play interventions, which have effectively improved the social abilities of children with autism. This research trend aligns with international developments (Gray, C., 2015). The drama therapy intervention program applied in this research primarily uses the Treatment and Education of Autistic and related Communication Handicapped Children approach, commonly known as Structured Teaching (TEACCH). Structured teaching typically creates specialized educational intervention programs within a school setting, with a focus on training children's social interaction skills (You, N., & Yang, G. X., 2008). It serves as a significant intervention model influencing autism education and rehabilitation, mainly aimed at reducing symptoms in autistic children, establishing routines, improving learning skills, and enhancing social adaptation (Howley, M., 2015).

Recent researches using drama as a form of therapy for children with autism report success especially in areas of social awareness development through role-play, improvisation and communication but using psychological theory of mind by Sun & Li (2022) who published their paper entitled *Drama Therapy's Methods in Intervention for Autistic Children*. Ding Lining in his paper entitled *Application of Drama Performance in Intervention of Children with autism Spectrum Disorders* (2022) also emphasized the success of drama performance on randomized study of 60 children. However, his researched focused on measuring social interaction indicators like eye contact, physical contact and dialogue frequency and used a control group as a yardstick for measurements which is difficult to validate as ASD spectrums is wide between children and comparison may not be valid. In order to validate and consolidate our research data and intervention methods, a pre- and post-data collection of the same 5 children with ASD is done using SRS and AQ, two verified measures of capabilities and capacity of ASD suffer.

In general, this research aims to improve and expand on the current research on drama therapy intervention focused solely on children diagnosed with ASD in China and to increase awareness as well as suggest a creative art therapy that will increase social awareness which is a particular weakness amongst children with ASD. The objectives of this paper are:

1) To prove that drama therapy successfully mitigates weak social awareness through 5 case studies of children with ASD using mixed method of research
2) What are the changes or impact of drama therapy specifically on social awareness in children with ASD

RESEARCH QUESTIONS

RQ 1 Does drama therapy with picture books help to mitigate weak social awareness in children with ASD?

RQ 2 How does drama therapy with picture books help children with ASd specifically on their lack of social awareness?

This article will outline the findings according to the elements that help to improve aspects of ASD in the 5 children who are the research participants of this case study. The answers to RQ1 analyzed through SRS is displayed through tables and charts with discussion on how the different aspects of social awareness is mitigated for RQ2. This is enabled through the triangulation of data collected from interviews with parents and experts' observation aforementioned and the scores recorded using SRS and AQ.

RESEARCH PARTICIPANTS

The subjects of study have been chosen because they fulfill the criteria set by the researcher. Due to the strong brain plasticity in the early stage of individual development, before the age of 6 is the golden period for behavioral intervention because of the positive effects on sensory functioning, motor development, emotion regulation, cognitive functioning, and social skills. Participants were recruited from the Special Children Care Service Centre at Guangxi Preschool Teachers College, which only admits autistic children over three years old who have not yet started school. Inclusion criteria included:

(1) A hospital diagnosis of autism spectrum disorder.
(2) Diagnosis of autism spectrum disorder according to the clinical criteria outlined in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5);

(3) Possesses basic language skills without significant impairment in verbal communication.
(4) Scoring 31 or higher on the Autism Behavior Checklist (ABC);
(5) No previous experience with drama therapy interventions;
(6) No need for pharmacological treatment.
(7) Parental consent obtained through a signed informed consent form.

After the enrolled autistic children's basic information and basic characteristics were investigated, the participants of this study selected a total of five cases of autistic children, including three males and two females, aged 5-8 years old, with a mean value of 6.25 years old, which did not show significant differences in age, gender ratio, and ABC scores ($P > 0.05$).

Autism Behavior Checklist Assessment

In Guangxi, China, due to limited clinical expertise in autism diagnosis, only a few hospitals have the necessary qualifications for diagnosing autism. After participant eligibility screening and allocation, parents universally completed the Autism Behavior Checklist (ABC) assessment before the experiment. The Autism Behavior Checklist (ABC) was developed by KRUG et al. (1980). This scale primarily assesses sensory, behavioral, emotional, and linguistic aspects in individuals with ASD, comprising 57 items across five domains: sensory skills, communication skills, language skills, motor skills, and social self-care skills. Yang X.L., et al. (1993) conducted a Chinese adaptation of the ABC. While retaining the original content, they reduced the recommended screening threshold from 53 to 31 points, thereby enhancing the instrument's suitability for screening Chinese children with ASD. In 2005, Li J.H., et al. (2005) employed the ABC to screen children with ASD using DSM-4 criteria. Results indicated that a screening threshold of 31 points yielded optimal sensitivity (0.89) and specificity (0.97). Wang Bing et al. (2013) used the ABC scale to screen children with ASD against DSM-5 criteria, achieving a sensitivity of 0.5 and a specificity of 1.0. The ABC scale uses a scoring method in which each item is assigned a score of 1, 2, 3, or 4 based on its weighting within the scale. The Chinese version's scoring criteria define a total score >31 as indicative of suspected ASD and >67 as highly indicative of suspected ASD.

Table 1: Research Participants Demography

Student1	Gender: Female	Age: 8 years old
Family background	Her family is well-off. She has parents and an 18-year-old brother. Her parents have established companies in local cities and hold bachelor's degrees. Her brother is studying abroad and is usually cared for by a nanny.	
Social and imaginative expression	The child exhibits an extroverted personality with a lively temperament. Her social skills and imaginative abilities are demonstrated (as assessed using the VB-MAPP evaluation criteria): The student demonstrates strong motivation for theme-based toys, maintaining engagement for over 30 minutes in activities like preparing snacks for animals or dressing dolls. The VB-MAPP assessment indicates cognitive development at Stage III, where students have mastered basic concepts, including shapes, colors, object functions, categories, locations, characters, adjectives, antonyms, and pronouns, with a vocabulary exceeding 300 words. Socially, the child shows Stage II-level competence, actively initiating interactions with peers and proposing rule-based games. For instance, during group training sessions, she demonstrates attention to others and enthusiastically invites friends to play structured games. Her imaginative	

	thinking reaches the level of substituting objects, such as using modeling clay to represent noodles.	
Student2	Gender: Male	Age: 6 years and 2 months
Family background	His family's financial situation is middle-class in the city. He has parents and a ten-year-old sister. His father and mother both work in state-owned units. His mother has a master's degree and is usually cared for by his grandparents.	
Social and imaginative expression	The child is introverted and reserved. His social skills and imagination are assessed using the VB-MAPP evaluation criteria: The student demonstrates average sitting endurance, maintaining a seated position for 10 minutes while easily distracted by external sounds or people. He can follow simple instructions from teachers, but shows shorter sustained attention spans in class, typically lasting 7 minutes. The child shows strong motivation for manipulative toys, such as modeling clay, and maintains engagement for 10 minutes. The VB-MAPP assessment indicates cognitive development at Stage II, transitioning to Stage III, where he has mastered shapes and colors and has over 100 vocabulary words. Social skills remain at Stage I levels, though he can share items with teachers upon instruction, respond to "hello" greetings, and share objects with others when prompted. Imaginative abilities are average.	
Student3	Gender: Female	Age: 6 years and 2 months
Family background	Her family's financial situation is middle-class in the city. She has parents and a four-year-old brother. Her father is an engineer, her mother is a nurse, and she is usually cared for by her grandparents.	
Social and imaginative expression	The child exhibits extroverted personality traits with demonstrated social competence and imaginative abilities (as assessed using the VB-MAPP evaluation criteria): The student demonstrates good sitting endurance, maintaining a seated position for over 30 minutes without displacement. They can execute complex instructions from teachers and sustain classroom focus for up to 20 minutes. The child shows strong motivation toward food and nursery rhymes. The VB-MAPP assessment indicates cognitive development at Stage III, where students have mastered basic object classification and possess a vocabulary of more than 1,000 words. Social skills align with Stage II levels, allowing item sharing upon instruction. While responding "Hello" when greeted by teachers, the child struggles with distinguishing between teacher and peer names, often forgetting others' names. Physical interactions are encouraged through commands such as "hugs" or "cheek kisses." Imaginative thinking is average.	
Student4	Gender: Male	Age: 6 years 10 months
Family background	His family's financial situation is middle-class in the city. He has parents and an eleven-year-old sister. His father is a corporate salesman, his mother is a bank clerk with a bachelor's degree, and he is usually cared for by his grandparents.	
Social and imaginative expression	The child demonstrates balanced personality traits. Social skills and imaginative expression (as assessed using the VB-MAPP evaluation criteria) include: maintaining good sitting posture for 25 consecutive minutes without leaving their seat; executing complex instructions from teachers; sustaining classroom focus for an average of 15 minutes. The child shows strong motivation for manipulative toys (e.g., educational toys) lasting 20 minutes,	

	but exhibits fear of negative imagery – such as emotional reactions to animated scenes where animals eat chili peppers and burst into flames. The VB-MAPP assessment indicates cognitive development at Stage III, where the child has mastered shapes, colors, object functions, categories, and vocabulary exceeding 500 words. Social skills align with Stage II levels, allowing participation in games upon instruction. While responding to "hello" from teachers, the child may speak softly or ignore unfamiliar educators. Shy by nature, they avoid physical contact and demonstrate average imaginative thinking abilities.	
Student5	Gender: Male	Age: 6 years and 5 months
Family background	His family's financial situation is in the middle of the city. He has parents and a ten-year-old sister. His parents are registered as permanent residents in the local city and have bachelor's degrees. His father is an enterprise salesman, his mother is an enterprise employee, and he is usually cared for by his grandparents.	
Social and imaginative expression	The child demonstrates balanced personality traits, average social skills, and imagination (as assessed using the VB-MAPP evaluation criteria). The student shows good sitting endurance, maintaining a seated position for over 30 minutes without leaving their seat. They can follow complex instructions from teachers, such as assisting in asking questions and returning to relay responses. Their sustained classroom attention spans exceed typical levels, typically lasting about 15 minutes. The child exhibits strong motivation toward transportation vehicles and iPads. The VB-MAPP assessment indicates cognitive development at Stage III, where students have mastered personal pronouns, directional terms, and adverbs, with a vocabulary exceeding 1,000 words. Social skills are at Stage III level, demonstrated through proactive greetings when encountering teachers or peers, and active questioning like "Where are you going?" However, imaginative thinking remains average.	

Research Ethics Observed

The subjects of this research are from Guangxi ECE Special Children Care Service Center, which only accepts autistic children who are older than 3 years old and have not entered the school age stage. They have all been diagnosed as autistic children with incomplete mental development. Before participating in this study, the researcher signed an informed consent form with the participants' immediate family members or other legal guardians based on the principle of voluntariness and the researcher explained in detail the purpose of the study, the research design plan, the risks, and confidentiality, to make their rights and obligations clear. The research protocol has been agreed upon by the Guangxi ECE Special Children Care Service Center. All aspects of the research process, including data collection and the use and preservation of audio and video recordings, will be strictly dedicated to the research itself and will not be used for any other purposes. The interviewees voluntarily participated in this study and signed an informed consent form to protect their privacy and the confidentiality of the interview contents. (Please refer appendices for signed consent forms)

METHODOLOGY

This study is a case study based on drama therapy intervention, using a single-subject experimental design with five children with autism as participants. Cases were selected through purposive sampling, choosing five highly representative children with autism whose abilities

met the study criteria. Each case underwent thorough exploration and pre-post comparison to evaluate the effectiveness of the drama therapy intervention. The intervention consisted of a 12-week drama therapy program, implemented following expert validation, standardized design, and structured operational training. By analyzing observational records, interviews, and changes in key indicators across baseline, intervention, and maintenance phases for all five participants, the study effectively measured immediate intervention outcomes while investigating underlying mechanisms and processes.

To thoroughly understand the effects of the drama therapy intervention experiment on the cases, this study used a mixed-methods research design, mainly gathering qualitative data through three main methods. First, based on the key aspects of the Social Reactivity Scale (SRS) and the Autism Quotient (AQ), researchers created an observation record form to support the drama therapy intervention. This form tracked the frequency of behavioral signs in children with autism, with data collected after each session to measure changes in their post-intervention abilities. Second, interviews were conducted with the children's parents (P1-P5) and two drama therapy practitioners (T1-T2). The interview data was analyzed using Interpretative Phenomenological Analysis (IPA). Third, the Social Reactivity Scale (SRS) was given at three points—before, during, and after the intervention—to collect baseline and follow-up assessment data. These three sources of data were then used to establish a triangulation verification system

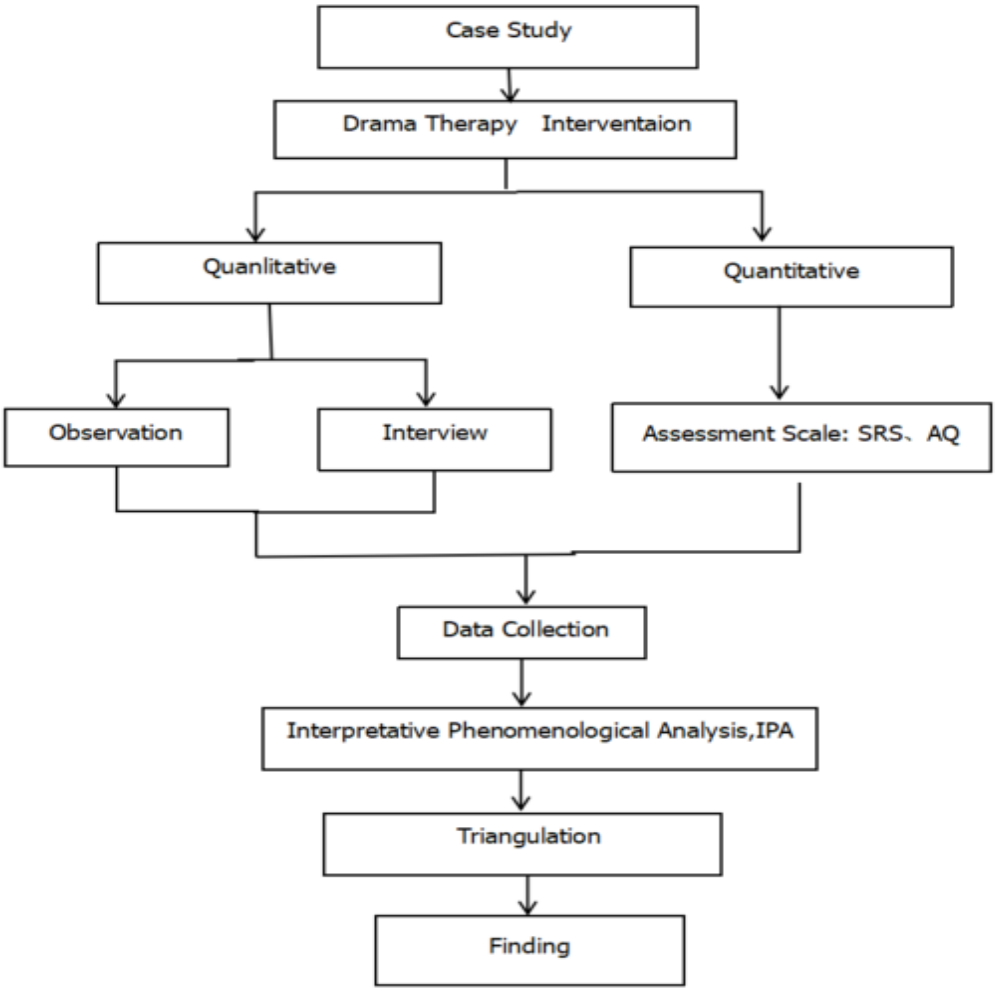


Chart 1: Research Framework Diagram

Research Procedure

Following case study methodology, this study used a cross-case multiple baseline design, divided into three phases: baseline period (Weeks 1–2), intervention period (Weeks 2–13), and maintenance period (Weeks 14–15). This design helps better understand the dynamic developmental processes in autistic children and their link to the intervention. This research process includes three phases: the pre-intervention phase, the intervention phase, and the maintenance phase.

Phase One: Pre-intervention Period (3 weeks, February 26, 2024 – March 17, 2024)

Preparation Phase (1 week): This stage mainly involves finalizing experimental procedures, securing the research location, obtaining written consent from Guangxi Preschool Teachers College and its Special Needs Children Care Centre, conducting an on-site inspection of the facility to evaluate hardware, environment, and safety conditions, and preparing all necessary research materials in advance.

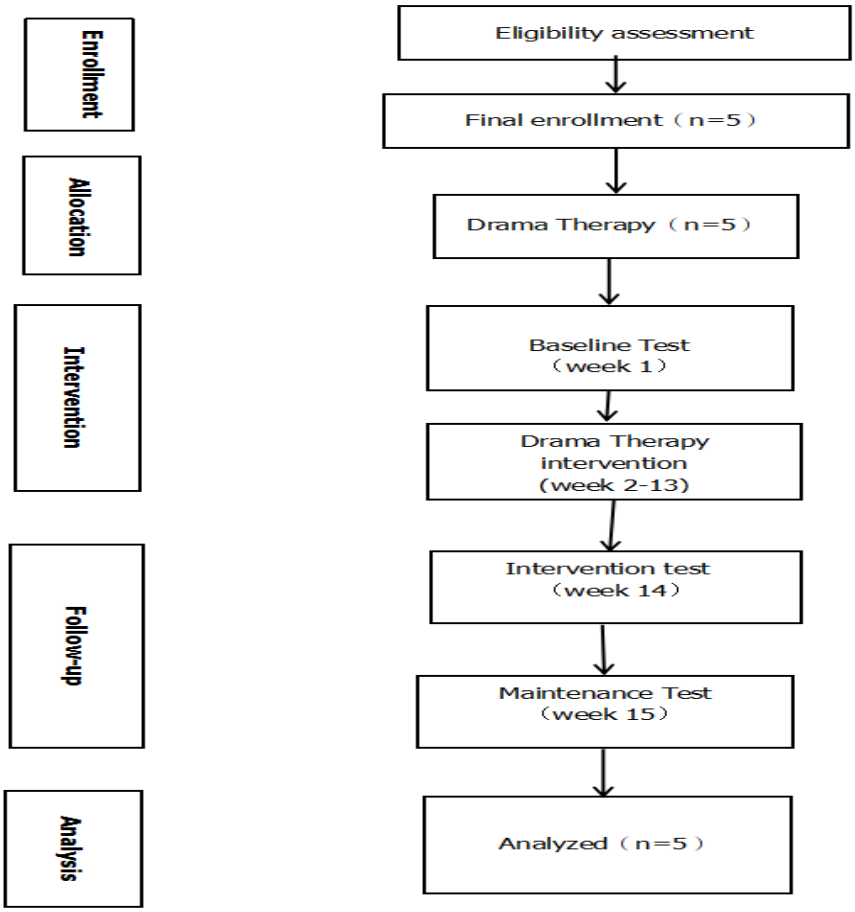


Chart 2: Research Procedure Flow Chart

Eligibility Screening and Configuration Period (1 week): This phase includes defining the research subject scope, publishing recruitment notices at the Special Children Care Service Centre, conducting eligibility assessments, collecting hospital diagnostic reports for children with autism, communicating with parents, completing the Basic Information Form for Children with Autism, and obtaining signed informed consent. It also involves administering the Autism Behaviour Checklist (ABC) assessment scale and confirming research subject criteria. During

this period, researchers establish initial contact with parents and children, observe non-experimental behavior, and document individual case characteristics in personal records.

The baseline period lasted one week. To test and refine the intervention program, two children with autism were randomly selected to form a pilot study group. One dramatic game, one scenario activity, and one role-play exercise were randomly chosen from the designed drama intervention program. Activities were conducted with the participants, observing their social and imaginative engagement during drama therapy sessions. Observation-only was performed during these activities, with no intervention provided. Afterwards, specialists in special education were invited to validate the accuracy of the drama therapy intervention content. Based on their feedback, the experimental design and content were quickly adjusted and optimized to ensure effectiveness and feasibility. A pre-test was then conducted for all participants, involving the first systematic assessment (including SRS and AQ) and measurement to obtain baseline data prior to intervention start.

Phase Two: Intervention Period (12 weeks, March 18, 2024 – June 9, 2024)

The intervention period lasts 12 weeks. After the baseline phase, the formal drama therapy intervention begins. Sessions are held weekly, each lasting 30 minutes, with a total of 12 sessions. The entire process is video-recorded and accompanied by detailed observation notes. According to the intervention plan, the drama therapy includes three main social picture book themes, each covering four weeks. After each theme, researchers review and summarize with the children with autism, discussing and updating the approach with the lead teacher. Finally, based on the collected feedback, adjustments are made to intervention goals, content, format, and strategies to ensure the therapy is delivered safely and effectively.

Phase Three: Maintenance Period (June 10, 2024 – June 23, 2024, lasting 2 weeks)

The two-week maintenance phase includes conducting post-intervention assessments. All participants undergo a second systematic evaluation (including SRS and AQ) immediately after the intervention. A third systematic assessment (including SRS and AQ) is carried out one week later to evaluate maintenance effects and gather post-intervention data. During this phase, researchers follow up on the behavioral outcomes of children with autism, observing and recording their daily living and learning in natural settings. Additionally, during maintenance phase data collection, researchers interviewed five parents of children with autism (P1-P5) and two therapists (T1-T2). Each interview lasted about 60 minutes and was fully recorded. These interviews examined changes in the children's social skills and imaginative abilities before and after the intervention, providing detailed descriptions to support the research findings.

DATA COLLECTION

This study used drama therapy interventions to improve the social skills and imaginative abilities of children with autism, employing a qualitative case study approach. Three groups of research personnel participated: therapists, assessors, and researchers. The therapist mainly carried out the 12-week drama therapy intervention. The scorer was involved throughout the sessions, observing, recording, scoring, and administering the Autism Assessment Scale during the intervention. The researcher designed, organized, and took part in the entire study. After the drama therapy, the researcher conducted semi-structured interviews with parents and therapy teachers, analyzed pre- and post-intervention changes in observation records and assessment scale data, and drew research conclusions

Based on the core dimensions of the Social Responsiveness Scale (SRS) and the Autism Spectrum Quotient, the researchers developed a supporting drama therapy intervention observation record form to document the frequency of behaviors exhibited by autistic children.

The frequency record sheet is a behavioral observation tool designed to objectively document the frequency of behaviors exhibited by autistic children within a specified period. The observation sheet comprises five core observation dimensions and ten specific indicators of observation behavior. Among them, the four observation dimensions of social ability are social awareness, social cognition, social communication and social motivation; among them, the behavioral indicators for observing social awareness in the subjects. For this paper we are focused on the impact on social awareness referring to the ability to notice changes in others' emotions and the ability to respond to others' non-verbal cues (such as eye contact and expressions)

During the intervention where drama therapy is administered as intervention on the 5 subjects, the data from observation and interviews with parents to collect the results are simultaneous. The qualitative fieldwork is conducted through participant observation method by expert therapists based on 12 observation records of drama therapy (DT1-DT12) according to the Social Responsiveness Scale (SRS). In order to collect and validate the impact of drama therapy on the subjects in this research experiment, qualified therapists were involved in observing and scoring the behavior from pre-tests to evaluation guided by approved scales of measurement such as ABC, SRS and AQ. The 5 subjects (S1-S5), of this research were tested prior to intervention in a pre-test followed by a post-test, and a progressive test. Descriptive statistics were then derived from these tests and triangulated with data collected from interviews with five parents (P1-P5) of the 5 subjects and two drama therapy teachers (T1 and T2) representing experts views. The data is then coded according to themes, and a double verification method involving both theme coding and observation scale was employed.

Based on the SRS (Social Responsiveness Scale) tool, this study conducted three tests on five children (S1-S5), covering four dimensions on social awareness, social cognition, social communication, and social motivation. Using Microsoft Excel, a descriptive statistical analysis was performed on the collected data to reveal the changing trends and differences in the abilities of autistic children in each dimension, and to determine the effects of drama therapy on the four dimensions of social abilities in autistic children. The higher the original score, the more severe the social disorder (Chen, Q.R.， 2009)., that is, the score range, T score ≤ 59, which is in the normal range; T score between 60-65, which is a mild variation; T score between 66-75, which is a moderate variation; T score ≥ 76, which is a severe variation studies have shown that after effective intervention, the total SRS score decreased by an average of 5-7 points.

SRS Dimensions	Evaluation Content	Topic Distribution (65 questions in total)
Social Awareness	Assessing an individual's ability to perceive the emotions and social cues of others	Question 1-10, 55, 56, 65, 13 a total of 14 questions.

Table 2: Social Awareness SRS Evaluation

Besides the scores through observation by therapists, semi-structured interviews were employed in this study, during which the researcher conducted interviews with five family caregivers of children with autism, one therapist, and one assessor. The interviews centered on their observations and feelings about the children's social changes, imaginative abilities, daily interactions, and emotional regulation. The interviews lasted approximately 45 minutes and were audio recorded and transcribed into verbatim scripts. Semi-structured interviews are a flexible yet systematic approach to gaining insight into the perspectives, experiences, and feelings of research participants under the guidance of the researcher (Kvale, S., & Brinkmann, S. ,2015). Based on the research questions of this study endorsed by the experts, a one-to-one online or offline interviews were conducted with the consent of the conversation partner, and the resulting parent interviews and audio-recorded materials were organized immediately after

the interviews were completed. First output, and then start numbering, text transcription, and do as much as possible to make the original information real and reliable. in the transcription process, according to the tone of voice, expression, and tone of voice during the interview, there are special features to identify, not to be offset.

Therapists

One qualified therapist (T1) was recruited to lead the drama therapy. All selected therapists satisfied the following criteria: (1) educational background in special education; (2) at least five years of experience in the field and currently practicing in special education; (3) systematic ABA training. The therapist for the drama experimental group had certification in arts and social skills training and had practiced art therapy for at least three years. (Refer to Appendices 2)

Expert Scorers

One scorer (T2) was chosen to assess participants' scale ratings and observation records. Selection criteria included: (1) a background in special education; (2) at least five years (Refer to Appendices 3) of experience in the field currently practicing in special education; and (3) hands-on experience with autism assessment scales, with a minimum of five years scoring experience demonstrating observer reliability.

Research Tools

This study used a case study approach with four research tools. First, a Child Profile Questionnaire offered a detailed understanding of the research participants' circumstances. Second, an observation record form was used to track the entire drama therapy intervention process. Additionally, the Social Research Scale (SRS) and Autism Quotient (AQ) scales were administered at three different times: baseline, post-intervention, and maintenance phase. Lastly, after completing the drama intervention therapy, semi-structured interviews were conducted with parents and teachers to thoroughly assess the intervention's effectiveness. The research tools are described below:

(i) Child Basic Information Questionnaire: Filled out by parents and teachers to record the child's birth history, development history, rehabilitation history, educational background, and family circumstances.
(ii) Observation Record Form: A self-designed form used during the research phase to observe and record the frequency of target behaviors. This facilitated case documentation and tracking, capturing changes before and after drama therapy intervention, along with data collection and analysis.
(iii) Interviews: A Parent and Teacher Interview Guide was created to evaluate changes in the social skills and imaginative abilities of the autistic child in daily life.
(iv) Assessment Scales: The Social Responsiveness Scale (SRS) and Autism Spectrum Quotient (AQ) were used to assess the child's social skills and imaginative abilities before and after the intervention. Comparing these data helped evaluate the effectiveness of drama therapy.

Data Triangulation

To ensure the reliability and validity of research conclusions, this study uses the methodological principle of triangulation to create a multi-level data validation system. The specific framework is shown in Figure 3-1: three evidence chains guided by research questions—behavioral observation, meaning interpretation, and developmental trajectory—support and complement each other to ultimately explain the intervention mechanism. In practice, the three data types

are closely interconnected. Behavioral observations of the five participants' proactive engagement in social interactions are cross-checked with interview insights into their motivations. At the same time, developmental trajectories assessed through three evaluation forms determine whether these behaviors reflect trend-based changes in their abilities. This multi-perspective cross-validation greatly improves the credibility of the research findings.

Observation

This study systematically observed the natural social behaviors of five children with autism during drama therapy sessions. The observations covered the entire intervention, which included 12 group therapy sessions, each lasting 30 minutes. Researchers used a self-designed Drama Therapy Observation Record to focus on key aspects of social behaviors: social awareness, cognition, communication, motivation, and creative imagination. Observations were carried out jointly by the principal investigator and a therapist/assessor with professional qualifications in drama therapy and special education. To maintain data objectivity, the assessor independently observed 30% of therapy sessions, with inter-rater reliability confirmed at over 90%. All observation sessions were fully video-recorded following ethical approval and participant informed consent, creating a comprehensive visual archive.

Interviews

To gain deeper insight into participants' subjective experiences, this study conducted semi-structured interviews with five children with autism, their primary caregivers, therapists, and assessors following the intervention. Participants were selected through purposive sampling to ensure diverse and rich perspectives.

The interview process used specially designed Parent and Teacher Interview Guides, focusing on areas such as social awareness, cognition, communication and interaction, motivation, and changes in imagination. Both guides were validated by two experts before use. Interviews were audio-recorded and transcribed into written form for later analysis.

SRS-2 & AQ Scale Testing

This study used the Social Responsiveness Scale-Second Edition (SRS-2) (Constantino & Gruber, 2012) and the Autism Spectrum Quotient (AQ) (Baron-Cohen et al., 2001). Assessment results from baseline, intervention, and maintenance phases were compared to create developmental trajectory charts. This qualitative use of assessment data turns traditional statistical metrics into narrative tools, offering a flexible reference for understanding the development of social skills and imagination in individual cases. Assessments were carried out at three different points: baseline, intervention, and maintenance. The resulting data were transformed into trend charts using comparative scoring. During the analysis, researchers cross-checked the developmental trajectories of the five cases with observation records and interview content, establishing meaningful links between the subjects' overall capability growth and micro-behavioral patterns.

To ensure scientific rigor and reliability, this study systematically implemented multiple quality assurance measures: First, through the researcher's continuous 12-week participation, a trusting relationship with participants was established, guaranteeing data depth and authenticity. Second, a triangulation design enabled effective complementarity and validation of data from diverse sources. Third, a therapist verification process involved feeding back preliminary analysis results to participants for confirmation, ensuring the findings accurately reflected behavioral changes and perspectives. Finally, a comprehensive database was created to preserve all materials, from raw records to analytical outcomes, ensuring the traceability of the research process. These measures collectively formed a strong quality assurance system, providing solid scientific support for the study's conclusions.

Intervention Tools

The teaching material for this study, *Children's Happy Growth Picture Book: Doudou and His Friends*, is chosen from locally adapted Chinese picture books that focus on children's social development. Developed by the Autism Research Centre at Nankai University, this comprehensive, curriculum-based picture book addresses social development in Chinese children. Based on child development psychology, educational psychology, and applied psychology, it combines children's social growth stages and characteristics. Emphasizing social skill training, it covers basic social etiquette, managing negative emotions in social situations, developing social expression, and participating in social play.

This study selected three picture books based on the key skills of social awareness that is the goal of the drama therapy sessions. These books focus on social competence objectives that need improvement for children with autism such as accepting rules of games, interrupting other appropriately and asking others for help. The titles of the picture books and their corresponding key social skills are listed in the table below.

Table 3: *Children's Happy Growth Picture Book: Doudou and His Friends* Series

Serial Number	Stories	Key Skills
1	The Transformation of the Troublemaker	Accept the rules of the game
2	Borrow a Piece of Blue Sky	Interrupt others appropriately
3	Please help me	Ask others for help

The drama therapy program was divided into three phases, each focused on a different theme and lasting four weeks. The Treatment Plan is outlined in the table below:

Table 4: Treatment & Lesson Plan

Schedule	Time	Target	Drama Therapy Lesson Plan
Phase 1	4 weeks	1. Learn social picture books *i. The Transformation of the Troublemaker Playing Football on The Football Field*	Dramatic Play: A game is played every week. stop and go Say Hello Physical greetings Facial exercises using mirroring technique
		2. Specific skills: accept the rules of the game	2. Scene Work: A scene performance from the picture book is carried out every week, including the teacher playing hide-and-seek, playing football on the football field, playing building blocks in the classroom, and playing circle games in the classroom, a total of four scenes
			3. Role Play: The children will play interchanging roles of the characters Pippi, Doudou, Maomao, Lele, Coco, etc.
Phase 2	4 weeks	1. Learn social picture books	Dramatic Play: A game is played every week Shadow

		Borrowing a Blue Sky *On the way Home*	Happy Birthday to the Lion King
			2. Scene Work: A scene performance of the picture book is held every week, including Doudou grabbing crayons in the painting class, Doudou borrowing crayons in class, friends painting together, and the teacher helping Doudou paint. Four scenes in total.
		2. Specific skills: interrupting others appropriately	3. Role Play: The children will play interchanging roles of the characters such as Doudou, Maomao, Lele, Keke, and Teacher Yangguang.
Phase 3	4 weeks	1. Learn social picture books *Please Help Me*	Dramatic Play : A game is held every week traffic light sculptor moves his whole body, playground is fun name card game
			2. Scene Work: Carry out a picture book scenario performance every week, including taking the bus, shopping in the supermarket, going to the toilet and washing hands, and on the way home, a total of four scenes
		3. Specific skills: Asking for help from others	3. Role Play: The children will play interchanging roles of the characters such as salesperson, Doudou, Lele, Duoduo, Doudou's father, Doudou's mother.

The structured teaching approach in this drama therapy intervention was as follows:

(1) Set timing and frequency: Sessions took place weekly at a fixed time with few schedule changes;
(2) Set physical environment: A dedicated room was chosen with minimal spatial adjustments;
(3) Set human environment: Consistent therapists and assistant teachers conducted the therapy with few teacher changes;
(4) Set activity sequence: Each session followed a predefined order.

This approach effectively reduces environmental novelty (Li, Y. T., Tao, Y., Yu, C., & Song, Z. W. 2024), thereby decreasing their sensitivity and discomfort toward unfamiliar environments or external stimuli. Furthermore, structuring the therapeutic environment, components, and individual learning content is achieved through activity zoning, using procedural timetables, task segmentation, visual aids, and personalized learning systems (Lin, Q. 2017). Empirical research by Ge, L. Y. (2021) and Liu, Z. H. (2020) indicates that structured teaching interventions for children with autism produce significant improvements across various functional areas, including cognitive skills, social interaction, and sensory perception. These improvements become more evident with prolonged intervention duration. This demonstrates that structured teaching is an effective intervention strategy, aligning with the objectives of this study's drama therapy approach and making it suitable for the present research.

Key Intervention Techniques

(i)Visual Prompts

Compared to typically developing children, autistic children demonstrate weaker language comprehension (Cao, S., & Fang, J., 2008), difficulties in emotion recognition, and lower imitation skills (Wei, Y. et al., 2019). Therefore, this intervention primarily uses visual prompts, prompting techniques, and task segmentation. Children with autism show notable strengths in visual processing (Chen, Y. et al., 2019). As a result, visual cues should be the main method used in this intervention. To capitalize on this visual processing ability, visual cues serve as an alternative prompting strategy that differs from physical assistance or demonstration. Using visual cues helps capture the attention of children with autism, making it easier to reach intervention goals. Visual prompting is simple and accessible, including formats such as organizational charts, visual flowcharts, behavior support charts, and information sharing tables. For example, during role-play in drama therapy, character name cards and color-coded costumes (e.g., blue hat for Pipi, yellow vest for Maomao) help with memory retention and support effective role-playing within the scenario. When teaching social rules from picture books, creating visual displays of these rules helps children with autism recognize and memorize them visually.

(ii) Prompting Techniques

Coe, D. A., et al. (1990) used verbal prompts and physical assistance to teach children with autism ball-passing skills. Therefore, this intervention requires appropriate prompting strategies during learning theatrical game rules, social interaction language, scenario performances, and role-play. Prompting techniques mainly include physical assistance, modeling, combined modeling and instruction, instruction alone (Schleien, S. J. et al., 1988), and time delay. Physical assistance involves touching the child during role-play to guide correct responses and promote learning. Demonstration means the instructor performs the target behavior or action for the child to observe and imitate when they have difficulty. Demonstration with verbal cues uses simple instructions like ‘May I borrow your pen?’ or ‘Would you like to join the game?’ along with actions to clarify the desired behavior. Verbal instructions involve simple commands such as ‘Can I borrow a pen?’ or ‘Would you like to join the game?’ supported by physical demonstrations to clarify the target action. ‘Invite Coco to join the game,’ along with physical demonstrations, clarifies the required target action or behavior. Verbal prompts involve speaking, gestures, or hand signals to communicate the target action, encouraging purposeful engagement. When using these prompting techniques, provide prompts appropriate to the participant's abilities. Prompts should progress from highest to lowest level: physical assistance, demonstration, demonstration combined with verbal instruction, and verbal instruction alone. Focus on lower-level prompts whenever possible; for example, if a child can complete a task with verbal instructions, avoid providing demonstrations or physical assistance.

(iii) Time Delay (TD)

is an evidence-based technique recognized by the US National Center for Professional Development, demonstrating effectiveness in teaching language and social skills for autism intervention. Time delay involves the teacher providing prompts immediately after presenting a stimulus during instruction to decrease error rates and provide reinforcement. Over time, the interval between the stimulus presentation and the prompt is gradually increased until the learner independently completes the target behavior, at which point prompts are faded or eliminated (Morse, T. E., & Schuster, J. W., 2004). The goal is to help children with autism perform learning tasks independently. For example, during turn-taking role-play activities, the teacher prompts the child to watch the performance quietly before signaling ‘Your turn’ for them to step forward and take their role.

(iv) Task Decomposition

Chen, X., Cai, W., Xie, T., & Fu, S. (2020) Given the limited central integration abilities of children with autism, therapists should appropriately subdivide intervention objectives during treatment based on the child's capabilities and task complexity. For instance, during role-play activities, the teacher should narrate a story to guide the child into scenario-based imagination. Throughout the process, verbal prompts should be provided to encourage the child to express opinions within the scenario alongside peers, with clear and fluent speech to foster independent performance and promote empathy and understanding. Subsequently, based on whether the child successfully completes the task, a decision should be made regarding whether to conduct more detailed, step-by-step breakdowns

DISCUSSION

RQ 1 Does drama therapy with picture books help to mitigate weak social awareness in children with ASD?

The research results indicate that drama therapy with picture books can help to mitigate weak social awareness in children with ASD after 12 weeks of intervention using dramatic play, scene work and role playing in a lesson plan specially tailored for the children with ASD involved in this research. The children's improvement varies for each assessment with S1 showing most improvements after the 12 weeks while S3 showed the least improvement where social awareness is concerned. These results were triangulated by comparison with the expert's observation scores and interview with parents who also observed changes in the children's social awareness at home.

Analysis of Social Awareness on the S1-S5 Assessment Scale

All 5 children showed some overall volatility across the three tests. The mean score of S1 decreased from 1.92 to 1.54 and then stabilized. S2 decreased from 1.69 to 1.31. S3 stayed between 1.69 and 1.54. S4 decreased from 2 to 1.62. S5 decreased from 1.69 to 1.46. Overall, the average scores for social awareness slightly declined. Since higher SRS measure scores indicate more significant symptoms, this suggests the children's performance in social awareness improved and was maintained as the lower the scores the more improvement in social awareness of the child.

Student ID	The first test score	The second test score	The third test average	Decrease (absolute value)	Percentage decrease
S1	1.92	1.54	1.54	0.38	19.8%
S2	1.69	1.31	1.31	0.38	22.5%
S3	1.69	1.54	1.54	0.15	8.9%
S4	2.00	1.62	1.62	0.38	19.0%
S5	1.69	1.46	1.46	0.23	13.6%

Table 5： Descriptive statistics of social awareness

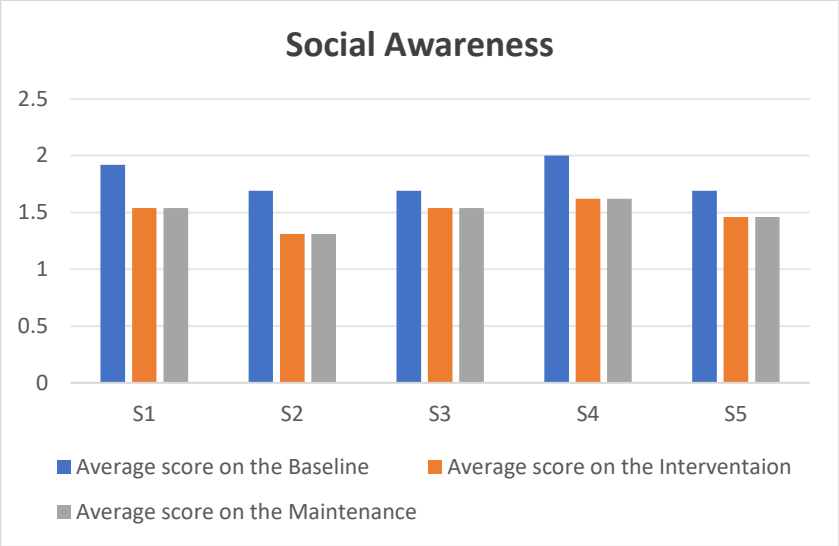


Chart 3： Histogram of Social Awareness Score

The bar graph of social awareness scores shows that all children experienced an increase in social awareness, and the overall trend remained stable. The decreases for S1-S5 were 19.8%, 22.5%, 8.9%, 19.0%, and 13.6%, respectively. In this social awareness measure of the SRS assessment form, the most notable decrease was in S2, which declined by 22.5%, from 1.69 to 1.31. The smallest decrease was 8.9%, dropping from 1.69 to 1.54. Most decreases ranged between 13.6% and 22.5%, with only S3 falling below 10%. The greatest intervention effectiveness was seen in S2, while the lowest was in S3.

Social Awareness Analysis of S1-S5 Observation Scale

Analysis of the data from the Social Awareness Observation Scale revealed that all five children's social awareness scores improved to some extent after the twelve interventions. S1's score gradually increased from 2 to 19 following the twelfth intervention. The scores' growth during the first four sessions was relatively small, but there was a more noticeable rise from the fifth to the ninth sessions, reaching a plateau after the tenth session. Similarly, S2 and S3 displayed a comparable pattern, with S2's score increasing from 2 to 14 and S3's from 3 to 17. Scores for S4 and S5 increased more gradually but still showed an overall upward trend, especially during the middle and later stages of the intervention, with significant progress.

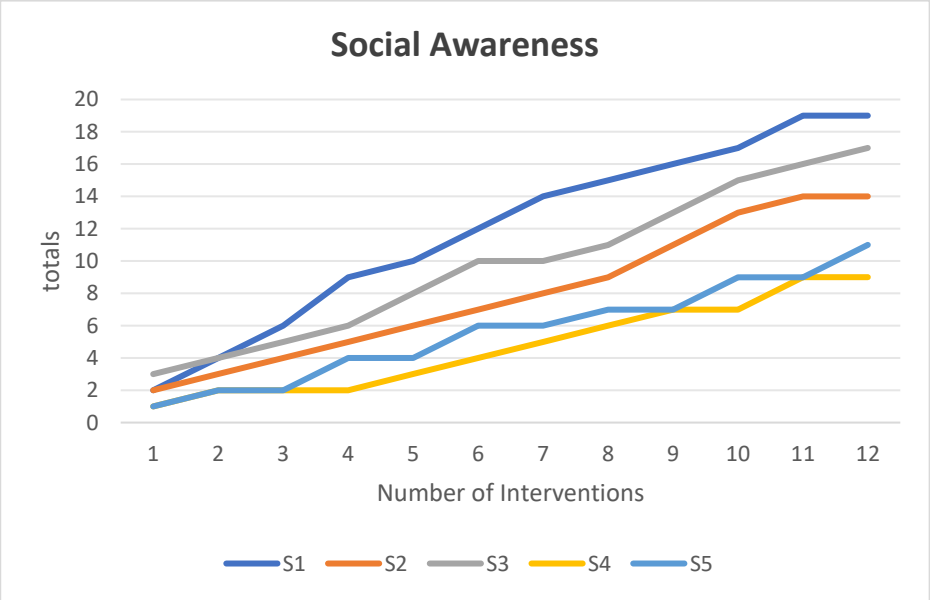
Number of interventions	S1	S2	S3	S4	S5
1	2	2	3	1	1
2	4	3	4	2	2
3	6	4	5	2	2
4	9	5	6	2	4
5	10	6	8	3	4
6	12	7	10	4	6
7	14	8	10	5	6
8	15	9	11	6	7
9	16	11	13	7	7
10	17	13	15	7	9
11	19	14	16	9	9
12	19	14	17	9	11

Table 6: Social Awareness Observation Scale Score Statistics

Number of interventions	S1	S2	S3	S4	S5
1	2	2	3	1	1
12	19	14	17	9	11
The difference between the 1st and 12th	17	12	14	8	10

Table 7: Social Awareness Observation Scale 1st and 12th Difference Score Statistics

As shown in the statistical graph of the difference scores between the first and twelfth assessments of the Social Awareness Observation Form, all children demonstrated a change in social awareness, with the trend remaining consistent. S1, with a difference of 17, showed the greatest improvement in social awareness skills; S3, with a difference of 14; S2, with significant improvements in both S2 and S3; S5, with a difference of 10; and S4, with a difference of 8, all exhibited steady progress. According to the observation scale data, the most effective social awareness intervention was S1, while the least effective was S4. Overall, the scores from the social awareness observation scale indicate that drama therapy intervention has a positive and lasting impact on enhancing social awareness in children with autism, helping them become more attentive and responsive to others' emotions. See the table and figure below.



Graph 1: Social Awareness Observation Scale Scores

Social Awareness Analysis of S1-S5 Parents Interview Results (P1-P5)

Social awareness was categorized into three main areas in the coding results: peer attention ability, emotional expression ability, and environmental adaptation ability. Regarding peer attentiveness, children gradually progressed from being initially inactive and inexpressive to being able to pay attention to and respond to their peers actively. P2 noted that children initially "if they know what is in the school then you can ask him about it, and he might just say a couple of words, but he is not sure how to describe it," reflecting the initial difficulties children had in expressing the content of their socialization. These difficulties in expressing social content improved significantly with drama activities. T2 observed that "his progress is quite obvious,

from reluctance or resistance to initiating, inviting, and cooperating in the later stage," which directly reflects the awakening and enhancement of social awareness. Emotional expression also showed improvement, with children gradually developing from emotional insensitivity to being able to express their emotions more effectively. P2 mentioned that children "are not sensitive to emotions, and unless you specifically ask them if they are happy now, they will usually just describe something and will not actively mention things that make them unhappy or cry." However, through the guidance of drama activities, a child has made significant progress in expressing emotions. P4 states that "he still does this, but he sometimes uses words to express bad feelings," indicating a gradual maturity in the child's ability to manage and express emotions. In terms of environmental adaptability, children demonstrated gradual adaptation and active participation in new environments. P2 mentioned that the children were reminded "not to rush to look at the traffic light" when crossing the street, reflecting their knowledge of traffic rules and their ability to adapt attention to their surroundings. These interview findings support the data from the observation form, and together they highlight the positive impact of drama therapy on children's social awareness.

The cross-case comparative analyses of S1-S5 showed that all the children displayed different levels of progress in social awareness, with unique patterns of development. S1 made the most significant progress, with the largest increase in observation scale scores, and shifted from passive socialization to active participation during the interview. S2 and S3 made relatively steady progress, moving from initial passivity to active engagement with peers. Regarding social interaction, S2 and S3 consistently improved as they transitioned from being passive to actively engaging with their peers. The progress of S4 and S5 was somewhat slower, but they were notable for their subtle changes in social awareness; for example, S5 moved from paying attention only to younger children to gradually engaging more fully in peer interactions.

RQ 2 How does drama therapy with picture books help children with ASD specifically on their lack of social awareness?

Results show significant improvement in social awareness in all 5 participants with various degrees and types of key skills improvement based on both the parent's observation and expert scores. Table Pre- & Post Intervention Observation in Comparison shows that majority of them recorded improvement where their social awareness was concerned. Among the most improved is participant S1 followed by S3, then S2, S5 before S4 according to triangulated results of SRS & AQ plus observations by 2 experts as well as their own parents.

Table 8: Pre-& Post Intervention Observation in Comparison

Dimension	Participants (S1-S5)	Before Intervention	Parent's Observation	SRS-AQ Score Ranking for Improvement in Social Awareness
Social Awarenesss	S1	Basic Situation S1 is an 8-year-old girl with autism who is quiet, has restrained behavior, and was less able to express her emotions before the intervention. The VB-MAPP assessment indicated that her social skills	S1 In terms of social awareness, S1 showed the ability to be aware of other people's emotions, pay attention to other children, look at other peers, and spontaneously turn their eyes to the children, showing	1

		were at the second developmental stage. The social and imaginative dimensions showed typical developmental characteristics of children with autism.	awareness of the presence of their peers, which indicated that S1 began to understand the significance of the "other" in the social environment. However, this gaze was relatively short-lived, mainly because their peers' outward behaviors, such as loud talking or large gestures, were not consistently recognized. However, this gaze is short-lived, mainly due to the stimulation of peers' overt behaviors, such as loud talking or large-scale gestures. His sensitivity to nonverbal social cues, including facial microexpressions and body language, remains limited. This profile is consistent with the core symptom profile of social impairment in children with autism.	
	S2	S2 is a 6-year-old, 2-month-old boy with autism who is introverted, slow to warm up, and has been socially unmotivated. The VB-MAPP assessment indicated that his social skills were at the first developmental stage. The social and imaginative dimensions showed	S2 In terms of social awareness, he was able to share objects with teachers when instructed to do so, and belonged to the category of being able to respond to specific social stimuli at the command of an adult; a clear passivity characterized his social attention, but	3

		typical developmental characteristics of children with autism.	he lacked spontaneous attention to natural social interactions in the environment such as initiating greetings and greetings with others. Eye contact was brief and inconsistent, and sustained external cues were required to maintain basic social gaze. This is consistent with the typical social attention deficit symptoms of children with autism, and is a passive social attention pattern.	
	S3	S3 is a 6-year-old, 2-month-old girl with autism, who is shy, expressive, emotionally delicate, and sensitive, and was assessed by the VB-MAPP, which showed that her Social skills are at the second stage of development. The social and imaginative dimensions show typical developmental characteristics of children with autism.	S3 In the social awareness dimension, can share objects with the teacher on command, show basic social orienting responses, and respond to direct social interactions. In structured situations, S3 can respond to explicit social greetings from the teacher, such as "hello," but is unaware of nonverbal social cues, including eye contact and facial expressions. She has difficulty in distinguishing and remembering the names of her teachers and peers. This name memory impairment reflects her specificity in encoding and storing social information, and may be related	2

			to the atypical development of the face recognition system.	
	S4	S4 is a 6-year-old, 10-month-old autistic boy with an introverted personality, very passive, and not very expressive. He has sensitive expressions, stereotyped behaviors, acts cautiously, avoids social interaction, and is easily nervous. The VB-MAPP assessment shows that his social ability is at the second stage of development, and he shows typical developmental characteristics of autistic children in the dimensions of social interaction and imagination.	S4 can respond to "hello" when he sees the teacher, but speaks in a very low volume to unfamiliar teachers, or even does not respond, and is shy. He shows situation-dependent social attention characteristics and can respond appropriately to the teacher's language instructions in a familiar teaching environment, including basic greeting responses and game invitations. However, in unfamiliar situations or when facing unfamiliar teachers, social responses are significantly weakened, including delayed responses, lowered volume, and avoidance of eye contact.	5
	S5	S5A: A 6-year-old, 5-month-old autistic boy with an introverted personality, less attention to social interaction and peers, less verbal expression, poor understanding of other people's emotions, and more individualistic behavior. In the third stage of VB-MAPP, the development of social skills shows typical patterns in	In terms of social awareness, the child takes the initiative to greet teachers and peers when they are present, demonstrating active social monitoring ability. They can spontaneously perceive familiar social objects in the environment, such as teachers and peers, and initiate greetings accordingly. His social attention	4

		autistic children particularly in the domains of social interaction and imagination.	range is limited in both distance and time, and he still has difficulty processing unexpected social signals, such as greetings from strangers.	

Although all the participants showed improvements in social awareness with some participant emerging above others overall after the intervention, each participant also recorded high responses to the stimuli through dramatic play, scene work and role-play. After the dramatherapy interventions, each participant showed that they were stimulated on different levels by different parts of the drama therapy using different picture books often outperforming others in the key skills. For example:

STUDENT 1

Dramatic Play "Traffic Signal"

In this drama therapy, the dramatic play physical game "Traffic Signal" effectively improved S1's social cognitive skills. The game required children to recognize traffic light rules, quickly make corresponding movements based on the therapist's commands like "red light stop, green light go, yellow light ready," and learn to observe and imitate peers during group turn-taking activities. In this drama game, S1 outperformed other students in the study. S1 was the fastest to understand and apply the traffic light rules and was able to take the initiative to remind his peers that "you are running the red light," indicating he had developed a basic awareness of the rules and understood the social meaning behind traffic regulations. This performance was consistent across 12 drama therapy sessions, with S1 performing particularly well in Q1 and Q2 compared to other interventions. This physical game effectively reinforces children's structured knowledge of social norms through a "perceive-decide-execute" training cycle, which aligns with the Q2 social cognitive dimension of the SRS-AQ criteria.
Role Play "Playing Slide in the Playground"

S1 exhibited low social motivation. During 12 drama therapy sessions, it was observed that in the role-play of the scene "Playing Slide," where S1 students played the character "Pipi" in the social illustrated story, they did not follow the queuing rules, leading to social conflicts that needed resolution. The therapist guided the students in simulating the social process of handling queue-jumping in group games through role-playing, role swapping, and systematic training, involving roles such as queue-jumper, mediator, and mediator. This approach noticeably enhanced the children's motivation to engage in social interactions and their conflict-resolution skills. S2, guided by the therapist, performed better than other children, spontaneously using appropriate language like "please line up, it is my turn soon," learning social language norms and building social confidence. Through the progressive intervention of "scenario rehearsal-role experience-approach construction," the training effectively reduced the children's tendency to avoid social conflicts, shifted their behavior from passive tolerance to active responses, and broadly improved their social motivation and competence.

Scene Work "Drawing Lesson Dou Dou Borrows Crayons"

In this drama therapy session, the scene "Drawing Lesson Doudou Borrows Crayons" from the social picture book was created during the Scene Work activity to encourage social motivation in S1 children. The scenario placed children in a drawing class where they needed to ask peers for help because they lacked crayons. The therapist guided them through role-playing to practice proper ways of social requesting and to learn to express themselves, such as, "Excuse

me, can I borrow your crayon?" The therapist directed children to practice appropriate social requests through role-play, like "May I borrow your crayon?" After taking turns to experience the scenario, S1 learned to ask peers for help following the scenario training. The child's social initiative improved significantly, and social manners became more standardized. Additionally, S1 learned to modify his expression when his request was denied, saying, "I will give it back to you right after I use it," and solved the social problem himself, which boosted his social self-efficacy. In this activity, S1 outperformed the other students, effectively activating his weak social motivation. The scenario training, practiced repeatedly with scripts from structured social picture books, successfully reduced social avoidance tendencies and fostered the development of intrinsic motivation for interpersonal interactions. This progress was observed over 12 sessions of drama therapy and effectively increased S1's level of social motivation.

STUDENT 2

Dramatic Play "The Sculptor"

In this drama therapy, the body game The Sculptor was designed during a dramatic play session, where the therapist created a sculpture of the body, asked the child to shape the body and pose as the sculpture, allowing the child to learn to observe the emotions expressed through the sculpture. The child was then asked to physically express a specific emotional state based on instructions. The game falls under the Q1 social awareness dimension of the SRS-AQ criteria. During the activity, S2 began to demonstrate active social mimicry behavior and pointed at peers, commenting, "He is making an angry face." She outperformed the other students during the 12 sessions of drama therapy. The embodied emotion expression training effectively promoted children's awareness of social cues, and the game successfully increased S2's social awareness.

STUDENT 3

S3's social communication has historically been weak. In the role play of "Supermarket Shopping," S3 performed better than other students in the study. This performance was observed during 12 drama therapy sessions. Compared to other sessions, S3's performance was best in observations by therapists T1 and T2. This activity aligns with the Q3 social communication dimension of the SRS-AQ standard, which aims to improve the social communication skills and situational adaptability of children with autism. The therapist designs the scenario by transforming the classroom to mimic the supermarket shopping process, including social interactions such as choosing items, queuing at checkout, and managing emergencies.

The communication skills of S3 children have been systematically enhanced. They can appropriately use shopping-related social expressions, such as "How much is this?" and "Thank you." When they cannot find the items they want to purchase, they will ask staff, "Please help me find White Rabbit Candy," and other situationally appropriate phrases, effectively addressing social challenges. Additionally, by role-playing different shopping roles, they grasp role understanding and differentiate role-specific language. As a "customer," they will use a requesting tone, and as a "cashier," they will proactively ask, "Do you need a bag?" Notably, S3 children are beginning to understand social rules during transactions and will spontaneously explain, "you have to queue up to pay for things." This scenario-based training enhances children's communication in specific contexts through a three-stage process of "role substitution-problem solving-generalized application" and also promotes social cognition development via structured social scripts.

In the future, considering S3's limited social awareness and communication skills, we can continue to use drama therapy interventions for multi-peer activities. This encourages S3 to express and communicate more effectively through drama games and scenario exercises,

thereby enhancing multiple social skills. We can guide S3 to create various scenarios to spark interest in social interaction, motivate active participation, experience different role swaps, ask about their role's feelings, share character stories, and improve S3's social communication and expression abilities. This approach can also help transfer the skills learned from the intervention, such as social communication and social problem-solving, into everyday life.

STUDENT 4

Dramatic play "*Happy Birthday to Lion King*"

S4's performance surpassed that of other students, with a breakthrough in multimodal communication—using language, movements, and expressions to say, "Lion King, I wish you a happy birthday." S4 children can also interact with the group, responding to others' blessings by saying 'Happy birthday' simultaneously. They also began to understand ritualized social interactions and experience the joy of social engagement. This game not only sharpens children's communication skills through the interactive loop of "role-creative expression," but also reduces social anxiety in game-based settings, laying an emotional foundation for developing communication abilities.

Scenework "*Playing Football on the Football Field*"

S4's social awareness has also greatly improved. In drama therapy's scene construction, the "Playing Football on the Football Field" scene from the social picture book was created. This game falls under the Q1 social awareness dimension of the SRS-AQ standard. Its performance in this area surpasses that of other students in the study, and its social awareness and teamwork skills have improved. The therapist arranged and simulated a classroom scene based on an actual football game, then played out the roles. The roles included players, referees, and coaches. Afterwards, the therapist and the children learned the rules of football, including offside, foul penalties, passing, celebrating goals, and other social interaction elements.

S4 children learned to actively observe their teammates and respond to non-verbal signals, such as gestures. This activity helps children imitate the teamwork shown in the virtual football class scene, and most children demonstrate a sense of collective honor. S4 children will jump excitedly after scoring a goal and celebrate with teammates. Through role-playing, they start to understand the social function of rules and will explain to their peers that "deliberately pushing someone will result in a red card." This scenario construction, using the "role-space-team" model, not only enhances children's awareness of social situations but also encourages high-frequency interaction through peer sports activities, thereby promoting social awareness and improving social skills.

In the future, since S4 is relatively introverted and has weak social skills overall, especially in social awareness and cognition, we can continue using the peer game strategy with drama games through drama therapy to guide and stimulate S4's non-verbal expressions, such as body senses and large limb movements. With peer leadership and cooperation, S4 can recognize his own emotions and improve his ability to perceive and understand others' emotions. Encourage S4 to participate more often in constructing and role-playing social scenes, learn social rules in targeted ways within virtual social scenarios, and enhance his social cognition. Additionally, motivate him to socialize more, communicate more effectively, increase peer interactions, learn proper ways to express emotions from peers, and boost his social confidence.

STUDENT 5

Role play “On the Way Home”

S5 showed slow progress in social awareness during Q1; however, in the scene construction "On the way home" in drama therapy, S1 performed better than the other students in the study. Compared with other drama therapy interventions, S5 was observed to perform best by therapists T1 and T2. This activity falls within the Q1 social awareness dimension of the SRS-AQ standard. During the game, S5 took turns experiencing and acting out the roles of father, mother, and sister in a social picture book story, which greatly enhanced his social awareness and environmental adaptability. The therapist created a home scene with the children in the classroom, including tasks like identifying traffic signals, safety tips, and caring for family members, guiding S5 to take turns playing family roles. S5's social monitoring improved, and he began to recognize others' emotional states. Interviews revealed that he was able to transfer safety behaviors learned during intervention to real home settings, understood social roles better, and his social awareness improved significantly. This scene construction and role-playing activity not only strengthened S5's social situational awareness through "environmental scanning-role substitution," but also activated his understanding of the environment and social cognition through family role-playing.

In the future, since S5's social awareness is limited and his social awareness still needs development, we can intervene through drama therapy. During drama therapy, we can continue to engage in more emotionally charged games to help S5 improve his ability to recognize his own emotions and those of others, while also enhancing his perception of the environment and peers. Encourage S5 to create more virtual social scenarios, boost peer interaction and communication, learn the correct ways to express emotions from peers, and strengthen social motivation and self-confidence. The notable progress S5 has made in social motivation and imagination also demonstrates the connection between social interaction and imagination. Moving forward, S5 can participate in more role-playing activities in drama therapy, actively tell stories, express others' emotions, and develop stories.

CONCLUSION

In conclusion, this case study research on 5 children with ASD using drama therapy with picture books intervention has established the efficacy of drama therapy as a form of creative arts therapy that can mitigate the lack of social awareness among these children. Although the sampling is limited to 5 children, autism is a neurological dysfunction with large spectrum that makes standardization challenging when dealing with large number. Therefore, this small sampling with a 100% improvement as shown in the results discussed above certainly merits drama therapy to be recognized and considered as a form of formal education for special needs children. More research into how to improve aspects of keys skills such as social communication, imagination and social cognition in children with ASD using drama therapy should be encourages in view of the tremendous help it will bring to parents and also the children with ASD whose hopes are to lead a normal life. The results of this research not only provide a solution to China to handle the increasing numbers of children with ASD but also to the world.

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Appendices 1

Information Table of Experts, Therapists, and Assessors

Title	Name	Age	Gender	Biography
Expert 1	Guo De Hua	57	Male	Ph.D. in Special Education and Professor of Psychology; currently serves as Dean of the School of Special Education, Director of the Special Children's Care Service Center, Vice Chairperson and Secretary-General of the China Disabled Persons' Federation's Intellectual Disability and Mental Health Association, Director of the Autism Work Committee of the association, Project Director for Autism, one of the first national disciplinary leaders in autism under the China Disabled Persons' Federation, Executive Director and Secretary-General of the Chinese Chapter of the International Association for Behavior Analysis (ABAI Chapter China, CCABA), and one of China's first national psychological counselor trainers. Has published over 50 research papers, with research interests including special education, autism education and rehabilitation, psychological interventions for children and adolescents with special needs, and mental health education.
Expert 2	TAN Shao feng	43	Male	Master of Gifted Education (Education for Supernormal Children), The University of Hong Kong; Doctor of Special Education, The Education University of Hong Kong— providing a comprehensive professional background in special education; Visiting Lecturer at The Education University of Hong Kong; Senior Lecturer; College Teacher Qualification Certificate; Certificate of National Psychological Counselor Level II (CBT); Certificate of Children's Mental Growth Instructor; and has published over 30 research papers.
Therapist	Wu Bi Rou	32	Female	Bachelor of Arts in Art Therapy; Certified and Registered Music Therapist. With eight years of hands-on experience in art therapy for children with autism, she incorporates and utilizes methods such as drama, role-playing, and narrative therapy to improve emotional recognition and social interaction skills through creative expression.
Assessor	Lu Yan	44	Female	Certified Rehabilitation Therapist in China. With 15 years of hands-on experience in rehabilitating children with special needs and autism, she has led the development of multiple social skills training programs and specializes in game-based assessment and intervention.

Appendices 2

Standardized Assessment Scales

A.1: Autism Social Responsiveness Scale (SRS)Autism Social Responsiveness Scale (SRS)

Child's name： File number: Age:
Gender: Nationality:
Name of person completing the form: Date of completion:
Relationship of the person completing the form to the child: ☐ Mother☐ Father☐ Guardian☐ Teacher☐ Other

Instructions:
1. Ask a parent or other adult who has lived with the child for a long period of time and is enthusiastically attached to the child to assess the child.
2. Be sure to complete each question (65 in total) without omission.
3. The scoring is based on the child's behaviour over a six-month period, which is measured by circling the options that best describe the child's behaviour in the degree columns: "1 - Not at all", "2 - Sometimes", "3 - Often", "4 - Always". Circle the option that best describes the child's behaviour in the degree column: "1 - No", "2 - Sometimes", "3 - Often", "4 - Always".

	Sports event	hasn't	sometimes	often	always
1	Apparent irritability when alone in social situations				
2	Facial expressions do not match what is being said at the time				
3	Acts confidently when interacting with others				
4	Exhibit fixed and peculiar behaviours when under pressure				
5	Doesn't realize he's being used.				
6	I'd rather be alone than with someone else.				
7	Being aware of what others are thinking or feeling				
8	Unique and strange behaviour				
9	Clinging to adults, very dependent on them				
10	Only the literal meaning of a conversation can be understood, not its true meaning.				
11	Pretty confident.				
12	Able to communicate his/her feelings to others				
13	Appears awkward when talking to peers (e.g., does not know how to take turns in conversation)				
14	Doesn't work well with others				
15	Can understand the meaning of other people's intonation and facial expressions				
16	Avoiding eye contact or having unusual eye contact				
17	Being able to realize that things are not fair				
18	Even if you try hard, it's still hard to be friends with others.				
19	Frustration in trying to understand others in a conversation				
20	Has unusual sensory interests (e.g., nan talking to herself, spinning objects) or special ways of playing with toys				
21	Able to imitate the movements of others				
22	Can play normally and appropriately with peers				
23	He won't join a group unless he's told to.				
24	He/she is less likely than other children to accept changes in routine.				
25	Doesn't mind being out of sync or out of tune with others				
26	Comforting people when they are sad				
27	Avoid starting social interactions with peers or adults				
28	Thinking or talking about the same thing over and over again				
29	Considered odd or peculiar by other children				
30	Becoming upset in a complex (many things happening at once) environment				
31	Once he/she starts thinking about something, he/she keeps thinking about it.				
32	Poor personal hygiene				
33	Appears awkward and impolite when interacting, even though he/she try hard to be polite				

34	Avoiding people who want to be close to him/her				
35	Can't maintain a normal conversation.				
36	Difficulty communicating with adults				
37	Difficulty communicating with peers				
38	Responds appropriately when someone's mood changes (e.g., when a friend or playmate goes from happy to sad)				
39	Have unusual, narrow interests				
40	Imaginative, can fake it (not out of touch with reality)				
41	Moving between activities without purpose				
42	Particularly sensitive to sound, texture or colour				
43	Easily separated from the provider				
44	cannot understand the interrelationships of events (e.g., cause and effect), whereas peers can				
45	Able to pay attention to where others are looking or listening				
46	Has an overly serious facial expression				
47	Acting silly or laughing suddenly				
48	Has a sense of humor and understands jokes				
49	Performs some tasks well but not all equally well.				
50	There is repetitive and strange behaviour (e.g., clapping or shaking)				
51	Inability to answer questions directly, and answering them incorrectly				
52	will recognise that he/she is talking loudly or making noise				
53	Talking to people in strange tones (like a robot talking or like a speech)				
54	Reacting to people as if they were objects				
55	Can recognise when he/she is too close to someone else or invades someone else's space				
56	He'll walk in between two people who are having a conversation.				
57	Often mocked				
58	Focuses too much on the parts of things and ignores the whole, e.g., when asked to describe a storyline, he/she describes the clothes worn by the story characters				
59	paranoid				
60	Emotional indifference, not expressing his/her feelings				
61	Stubbornness, to change his/her feelings				
62	Doing things for unusual or illogical reasons				
63	Approaching others in a particular way (e.g., touching someone and then walking away without saying anything).				
64	Particularly nervous in social situations				
65	Gaze or watch without purpose				
Please check that each question has been circled.					