

A Case Study on Behavior Correction of Special Needs Students in Primary School

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Abstract: This study takes Xiaoyu, a third-grade primary school student with Autism Spectrum Disorder (ASD), as the research object. Based on the closed-loop model of “precise assessment - personalized intervention - multi-party collaboration”, it systematically analyzes the manifestations and causes of his classroom problem behaviors through literature research, observation, interviews, and action research methods. A multi-dimensional behavior correction plan including positive reinforcement, environmental adaptation, and social skills training was formulated and implemented. After a semester of intervention, the frequency of Xiaoyu’s classroom aggressive behaviors decreased by 82%, the duration of stereotyped behaviors reduced by 75%, and his initiative in social interaction significantly improved. The research shows that personalized intervention plans designed for the individual differences of special needs students, combined with multi-party collaborative support from home, school, and society, can effectively correct their problem behaviors, providing reference for the practice of behavior intervention for special needs students in primary schools.

Keywords: Primary school special needs students; Behavior correction; Autism Spectrum Disorder (ASD); Positive reinforcement; Multi-party collaboration

Online publication: November 26, 2025

1. Case background

With the in-depth advancement of the concept of inclusive special education development, more and more special needs students are studying in regular schools, and their behavior problems have become a key factor affecting the quality of education and teaching as well as their own development. The primary school stage is a critical period for the formation of behavioral habits. Due to differences in cognitive, emotional, and social development, special needs students are more likely to exhibit problem behaviors such as aggression, stereotypy, and withdrawal. If not intervened in a timely manner, these behaviors will seriously affect their academic development, social adaptation, and physical and mental health.

The case selected in this study is from a public primary school in an urban area of a city. Xiaoyu, the case student, is in Class 7, Grade 3, which has 50 students. His head teacher, Teacher Li, has five years of experience as a head teacher and has participated in inclusive education training for students with special needs. Xiaoyu enrolled in the first grade and exhibited obvious problem behaviors in the early stages, such as suddenly hitting classmates, tearing textbooks in class, and repeatedly shaking chairs for a long time. These behaviors not only affected the normal teaching order of the class but

also caused some classmates to reject him. His parents were also anxious due to frequent feedback from the school. To help Xiaoyu improve his behavioral status and promote his integration into the class, this case study was specially carried out.

2. Basic information of the case

Xiaoyu, male, 9 years old, is a third-grade primary school student. He was diagnosed with Autism Spectrum Disorder (ASD) by a professional medical institution, accompanied by a mild language development delay. Xiaoyu is an only child. His parents are both enterprise employees with bachelor's degrees, and the family's economic conditions are good. His father is busy with work and has little time to participate in his child's education; his mother is mainly responsible for taking care of Xiaoyu's daily life and study, and invests a lot in his child's education. However, due to the lack of professional knowledge in special education, her educational methods are mainly persuasion and criticism.

Through two weeks of classroom observation, post-class follow-up, and in-depth interviews with parents and teachers, it was found that Xiaoyu's problem behaviors mainly manifest in three aspects. Firstly, aggressive behaviors: when classmates approach his seat or accidentally touch his belongings in class, he will suddenly hit or push them, occurring an average of 3–5 times a day; when the teacher asks him to stop stereotyped behaviors, he occasionally throws stationery or tears textbooks, about 2–3 times a week. Secondly, stereotyped and repetitive behaviors: in class, he often shakes his chair for a long time, twists his pencil repeatedly with his hands, and cannot concentrate. Each stereotyped behavior lasts for 5–10 minutes, with a total daily duration exceeding 1 hour; during breaks, he refuses to participate in games with classmates, walks back and forth alone in the corridor, and repeats lines from cartoons^[1]. Thirdly, social interaction disorders: he never takes the initiative to communicate with classmates or teachers. When others take the initiative to communicate, he will bow his head to avoid eye contact; he cannot understand others' facial expressions and body language. For example, a classmate's friendly wave will be misunderstood by him as an aggressive behavior.

3. Analysis of the causes of behavior problems

3.1. Individual cognitive and physiological factors

The core characteristics of Autism Spectrum Disorder are social communication disorders and repetitive stereotyped behaviors, which are the main individual factors leading to Xiaoyu's behavior problems. Xiaoyu has differences in brain neural development and a weak ability to filter and process environmental stimuli. When there are stimuli such as changes in sound, light, or people walking in the classroom environment, he is prone to overreaction and then relieves anxiety through aggressive or stereotyped behaviors^[2]. At the same time, Xiaoyu's language development is delayed, and he cannot accurately express his needs and emotions. When his needs are not met or he is in a bad mood, it is difficult for him to solve problems through reasonable language communication, and he can only express himself through problem behaviors.

3.2. Family upbringing and environmental factors

Family upbringing methods and environment have an important impact on the development of Xiaoyu's behaviors. Xiaoyu's parents have an insufficient understanding of knowledge related to autism. When their child exhibits problem behaviors, his mother mostly adopts criticism and accusation, and even occasional physical punishment. This negative upbringing method not only fails to correct the problem behaviors but also exacerbates Xiaoyu's emotional confrontation, making him more likely to exhibit aggressive behaviors^[3]; due to being busy with work, his father pays seriously insufficient attention and companionship to his child, lacking parent-child interaction, leading to Xiaoyu's lack of a sense of security and emotional support, and hindering the development of his social skills.

3.3. School education and environmental factors

Insufficient school educational support is an important reason for the persistence of Xiaoyu's behavior problems. Although Teacher Li, the head teacher, has experience in inclusive education training, she lacks special intervention experience for students with autism. When Xiaoyu exhibits problem behaviors, she mostly adopts the methods of stopping and criticizing, failing to fundamentally analyze the causes of the behaviors and take effective intervention strategies. In terms of the classroom environment, Class 2, Grade 3 has a large number of students and a fast classroom teaching rhythm. Xiaoyu cannot keep up with the teaching progress, easily leading to frustration and boredom, and then exhibiting problem behaviors; at the same time, the classmates in the class lack understanding of knowledge related to autism. When Xiaoyu exhibits aggressive or stereotyped behaviors, his classmates mostly show fear and rejection, and some even laugh at and tease him, which further intensifies Xiaoyu's behavior problems and makes him more withdrawn and confrontational.

4. Formulation and implementation of the behavior correction plan

4.1. Precise assessment and clarification of intervention goals

Based on the closed-loop model of "precise assessment - personalized intervention - multi-party collaboration", first, through the classroom observation record form, detailed records of the time, location, frequency, triggering factors, and consequences of Xiaoyu's problem behaviors were made for two consecutive weeks to form baseline behavior data; the "Childhood Autism Rating Scale" and "Child Behavior Checklist" were used to quantitatively assess Xiaoyu's autism symptoms and behavior problems^[4]; through semi-structured interviews with parents and teachers, the family and school incentives for Xiaoyu's behavior problems were understood; psychological assessment tools were used to evaluate Xiaoyu's emotional state and social skills.

According to the assessment results, hierarchical intervention goals were formulated. Short-term goals (1–2 months): reduce the frequency of Xiaoyu's classroom aggressive behaviors to less than 1 time a day, and shorten the duration of a single stereotyped behavior to less than 3 minutes; learn to express needs with simple language, such as "I want to drink water" and "Don't touch me". Medium-term goals (3–4 months): eliminate classroom aggressive behaviors, and control the total daily duration of stereotyped behaviors to less than 20 minutes^[5]; be able to take the initiative to have simple communication with teachers and classmates, such as responding to greetings and asking simple questions; be able to abide by basic classroom rules, such as not leaving the seat at will. Long-term goals (5–6 months): form good behavioral habits, no aggressive behaviors, occasional stereotyped behaviors that can be controlled by himself; be able to participate in simple collective activities of the class and establish initial peer relationships with 3-5 classmates; academically, be able to keep up with some basic teaching content and enhance learning self-confidence^[6].

4.2. Personalized intervention and implementation of positive reinforcement strategies

Aiming at Xiaoyu's behavior problems, a personalized intervention strategy focusing on positive reinforcement combined with behavior modification techniques was adopted. Firstly, a token economy reward system was designed. According to Xiaoyu's interests and hobbies, his favorite reinforcers were determined, such as cartoon stickers, building block toys, and 10 minutes of watching cartoons. Behavior reward rules were formulated: when Xiaoyu had no aggressive behaviors within 15 minutes in class, the duration of stereotyped behaviors did not exceed 3 minutes, or he could express his needs with language, he was given 1 token; accumulating 10 tokens could be exchanged for corresponding reinforcers^[7].

Secondly, social skills training was carried out. Individualized social training was conducted twice a week in the resource classroom. Scenario simulation, role-playing, and other methods were used to teach Xiaoyu basic social skills, such as greeting, asking for help, and expressing gratitude^[8]. For example, simulating the scenario where a classmate accidentally touches him, teaching Xiaoyu to say "Please don't touch me" instead of directly attacking; simulating the post-class activity scenario, teaching Xiaoyu how to take the initiative to join classmates' games, such as "Can I play with you?", helping Xiaoyu improve his social skills in actual interactions.

Thirdly, emotional regulation training was conducted. Picture book reading, emotion cards, and other tools were used to help Xiaoyu recognize basic emotions such as happiness, anger, and sadness, and learn to identify his own and others' emotional expressions; Xiaoyu was taught simple emotional regulation methods, such as when feeling angry, he could clench his fists and take 5 deep breaths, or go to the "calm corner" in the corner of the classroom to relieve emotions by playing stress-relief toys. After morning reading every day, the special education teacher had a 10-minute emotional exchange with Xiaoyu, asking about his emotional state that day and guiding him to express his emotions with language.

4.3. Environmental adaptation and optimization of the support system

The environment was optimized at both the school and family levels to provide adaptive support for Xiaoyu's behavior correction. At the school level, Xiaoyu's seat was adjusted to the front-middle position of the classroom, close to the head teacher and "peer helpers", to reduce the interference of people walking in the corridor; a "calm corner" was set up in the corner of the classroom, with stress-relief toys, picture books, cushions, etc. When Xiaoyu was emotionally agitated or exhibited stereotyped behaviors, he could go to the "calm corner" by himself or under the teacher's guidance to calm down^[9]. The classroom teaching strategy was adjusted. The head teacher and teachers of various subjects designed hierarchical teaching tasks according to Xiaoyu's academic level. For example, in Chinese class, Xiaoyu was asked to recognize simple Chinese characters, and in math class, he was assigned to complete basic calculation problems, ensuring that Xiaoyu could gain a sense of accomplishment in learning and reducing problem behaviors caused by learning difficulties.

At the family level, the intervention team provided special education knowledge training for Xiaoyu's parents, conducted a parent class once a month, explaining the characteristics of Autism Spectrum Disorder, positive parenting methods, behavior intervention skills, etc.^[10]; guided parents to adjust their parenting methods, replacing criticism and accusation with encouragement and praise. When Xiaoyu exhibited good behaviors, timely affirmation was given, such as "You tidied up your toys by yourself today, great"; family behavior rules were formulated, such as "Watching TV for no more than 30 minutes a day" and "Washing hands before meals", which were posted in Xiaoyu's room in a combination of pictures and texts. Parents set an example to guide Xiaoyu to abide by the rules^[11].

5. Evaluation of behavior correction effects

After one semester of intervention, the same assessment methods as before the intervention were used to comprehensively evaluate the improvement of Xiaoyu's behavior problems. The evaluation results are as follows. In terms of behavioral performance, through classroom observation records, the frequency of Xiaoyu's aggressive behaviors decreased from 3-5 times a day to 1-2 times a week, a decrease of 82%; the duration of a single stereotyped behavior was shortened to less than 1 minute, and the total daily duration was controlled within 15 minutes, a reduction of 75%; he could take the initiative to abide by basic classroom rules, such as not leaving the seat at will or tearing textbooks, and could stop stereotyped behaviors by himself when reminded by the teacher^[12,13].

In terms of social skills, Xiaoyu could take the initiative to greet the head teacher, special education teacher, and "peer helpers", such as "Hello, teacher" and "Good morning", could respond to others' simple questions, such as "What did you eat today", and have short conversations; during breaks, he could take the initiative to join classmates' simple games, such as building blocks and skipping rope, and established stable peer relationships with 3 "peer helpers"; in class collective activities, he could participate with everyone, such as chorus and doing radio exercises, and no longer withdrew alone.

In terms of emotional regulation, Xiaoyu's emotional stability was significantly improved. The frequency of emotional outbursts decreased from 3-4 times a week to 2-3 times a month, and the crying time was shortened. He could calm himself down through deep breathing, going to the "calm corner", and other methods; he could accurately identify his own and others' basic emotions. For example, when seeing a classmate crying, he would say "He is sad" and try to hand over tissues to comfort.

In terms of academics, Xiaoyu's Chinese character recognition increased significantly, he could recognize more than

200 commonly used Chinese characters, and could read simple picture books independently; his math calculation ability was further improved, and he could complete addition and subtraction within 100; his attention span in class extended from 5–10 minutes to 20–25 minutes, he could take the initiative to participate in basic teaching tasks, and his learning self-confidence was enhanced.

6. Research reflections and prospects

Through the closed-loop model of “precise assessment - personalized intervention - multi-party collaboration”, this case study effectively improved Xiaoyu’s problem behaviors, verifying the effectiveness of this model in the behavior correction of special needs students in primary schools. During the research process, precise assessment provided a scientific basis for the formulation of the intervention plan, ensuring the pertinence of the intervention; positive reinforcement strategies were in line with the behavioral development characteristics of special needs students, which could effectively stimulate the occurrence of their good behaviors; environmental adaptation and multi-party collaboration built a comprehensive support system, providing a guarantee for behavior correction^[14,15].

However, the research also has some shortcomings. Firstly, the intervention time was relatively short, only one semester. Some of Xiaoyu’s stereotyped behaviors still occur occasionally, and the long-term intervention effect needs to be tracked and observed; secondly, the assessment tools were not rich enough, mainly using observation and interviews, lacking more professional quantitative assessment tools, and the objectivity of the assessment results needs to be further improved; thirdly, the pertinence of the intervention strategies can still be optimized. For example, no more specific academic intervention plans were formulated for Xiaoyu’s academic difficulties, and the effect of academic improvement was relatively limited.

Future research can be further deepened in the following aspects. Firstly, extend the intervention cycle, carry out long-term follow-up research for 2–3 years, observe the long-term effect of behavior correction for special needs students, and explore effective strategies for behavior maintenance; secondly, enrich assessment tools, combine professional psychological assessment scales, physiological indicator monitoring, and other methods to improve the scientificity and objectivity of assessment results; thirdly, refine the intervention plan, formulate more targeted hierarchical intervention strategies for the academic, social, emotional, and other problems of special needs students. For example, combined with Xiaoyu’s mathematical advantages, design social interaction activities based on mathematics to improve the comprehensive effect of the intervention.

Disclosure statement

The author declares no conflict of interest.

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