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The Teaching Research on Situational Teaching Method for Correcting Aggressive Behavior in Children with Intellectual Disabilities

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Abstract

This study focuses on aggressive behaviors among children with intellectual disabilities (CID) in special education. Given the prevalence of moral misconduct and aggressive behaviors (such as maltreatment) among CID in education settings, this research raises three core questions: How can situational teaching be effectively utilized to enhance CID's moral cognitive abilities and modify their aggressive behaviors? What are the specific corrective effects of situational teaching on CID's aggressive behaviors, and what are the key points of its implementation methods? What practical frontline teaching data can be provided to assist administrators in developing situational teaching curricula? Conducted in a special education school, this study adopts a quantitative research method. Fifteen children exhibiting aggressive behavioral characteristics were selected, and professional teachers collected baseline data using a comprehensive observation record form. Participants were divided into an experimental group and a control group; the experimental group received situational teaching interventions based on the functions of the children's aggressive behaviors. Results indicate that this intervention method can effectively reduce the frequency and intensity of aggressive behaviors among CID, modify their behavioral patterns, and simultaneously promote qualitative improvements in their social interaction skills, emotional management abilities, and moral cognitive levels. This study not only enriches the system of teaching methods in special education, provides practical guidance for teachers, and lays a foundation for curriculum development but also responds to China's relevant special education policies. It contributes to improving the quality of special education, enhancing the moral education level of children with disabilities, and promoting their all-round development.

Keywords: Situational Teaching, Special Education, Children with Intellectual Disabilities, Aggressive Behavior, Moral Education

Introduction

According to the *14th Five-Year Plan for the Development and Improvement of Special Education* issued by the State Council of the People's Republic of China in 2021, efforts should be made to comprehensively improve the quality of special education, promote self-respect,

self-confidence, self-reliance, and self-strength among children and adolescents with disabilities, maximize their development, and emphasize moral education. Meanwhile, with the frequent occurrence of moral issues among adolescents, moral education has become a critical focus for educators. CID are prone to moral misconduct, as evidenced by cases of maltreatment among intellectually disabled students in inclusive primary schools, often manifested as physical abuse (e.g., hitting, slapping, pulling hair, snatching, scratching) and verbal abuse (e.g., mocking) (Cahyani, 2019). Group education is particularly important and effective in the education of children with intellectual disabilities (Sánchez-Romero et al., 2021). Studies have shown that situational teaching can enhance students' performance in specific courses, including psychology-related subjects (Medne, 2022). Due to their insufficient adaptability, CID often exhibit slow memory, poor generalization ability, and limited behavioral motivation (Faris, 2017). They generally face unique learning challenges (Keskinova & Ajdinski, 2018) and require appropriate teaching methods to facilitate comprehension (Pontianak et al., 2020).Therefore, in summary, children with intellectual disabilities currently exhibit some aggressive behaviors, making it crucial to implement corrective interventions for such behaviors. The situational teaching method has demonstrated certain applicability in this process. This practice not only effectively enhances children's moral cognitive levels and reduces the occurrence of aggressive behaviors but also strengthens the foundation for campus and social stability. Furthermore, it exerts profound and positive impacts on students' individual Homo sapiens development, the healthy growth of schools, and even the harmonious progress of society as a whole.

Research Purpose

This study focuses on the moral cognitive behaviors of CID. Due to individual factors, CID have deficiencies in moral cognition. This research will adopt situational teaching to explore its corrective effects on CID's aggressive behaviors. During the study, it will investigate the effective specific implementation and key operational points for teachers when applying situational teaching. The aim is to draw relevant conclusions, provide frontline teaching data support for situational teaching, and promote its application and development in the field of special education.

Research Questions

2.1 How can situational teaching be effectively used to enhance CID's moral cognitive abilities and change their aggressive behaviors?
2.2 What are the specific corrective effects of situational teaching on CID's aggressive behaviors, and what are the key points of its specific implementation methods?
2.3 What practical frontline teaching data can be provided to assist administrators in developing situational teaching curricula?

Literature Review

To lay a theoretical foundation for research on CID's aggressive behaviors and the application of situational teaching, and to understand the current state of relevant studies, a systematic literature review will be conducted. The content covers:
Analysis of data on CID's aggressive behaviors, aiming to grasp the frequency and typical characteristics of such behaviors;
Exploration of the impacts of these aggressive behaviors;
Review of the advantages and limitations of existing corrective methods;

In-depth analysis of the research status of situational teaching;
Perspectives on aggressive behaviors and their correction.
Through systematic research on these five key aspects, a solid theoretical foundation is established, research ideas and directions are clarified, and guarantees are provided for the smooth implementation of subsequent studies.

The data situation of aggressive behavior of CID
Through the statistics of research reports, six studies reported prevalence estimates of general bullying perpetration, with a weighted mean prevalence estimate of 15.1% (95% CI = 11.9 - 18.3, range = 0% - 46.8%), and one study showed prevalence rates of 46.3% (95%CI = 36.9 - 55.7) for physical bullying and 41.8% (95%CI = 32 - 51.6) for relational bullying (Maïano et al. 2015), indicating that the characteristics of aggressive behavior in children with intellectual disabilities, in the CID group, the incidence of challenging behavior is about 10 - 15%, and its manifestations are diverse, such as aggression, destruction, self-harm, etc. Therefore, it is necessary to conduct research on the correction of aggressive behavior in students.

The Impact of Aggressive Behavior
These behaviors may be ways for students to seek attention or express emotions, and they can cause significant interference in learning and classroom management (Bilias-Lolis & Martin 2019).

Moreover, aggressive behavior hinders the teaching of CID, and is considered one of the important reasons for the failure of CID in personal and social adaptation, hindering the integration of CID into society (Pears et al. 2014).
According to the aforementioned literature, aggressive behavior has an impact on students' academic life.

The Corrective Methods for other Existing CID Aggressive Behaviors
There are also methods using drug treatment to limit the occurrence of aggressive behavior, but there is much controversy over the use of excessive or long-term medication (Sturmey, P.2002).Medication is not the best choice and can have side effects; the use of situational teaching rules completely avoids these side effects.

It has also been learned that cognitive therapy is effective in correcting aggressive behavior (Sukhodolsky et al. 2016b), and some studies use a combination of cognitive therapy and drug interventions to correct aggressive behavior, finding that cognitive therapy is very effective (Orim et al. 2022b). Therefore, from this aspect, we learn about the effectiveness of cognitive therapy, which also supports the positivity of situational teaching method instruction.

Current Research on Situational Teaching Method
Studies have shown that situational teaching can change students' behavior by teaching their psychological emotions and cognition,In situational education and teaching, Teachers have a significant impact on students' interest and learning development (Rotgans & Schmidt 2011) .

Teachers play supporting roles, Not too much direct guidance (Brok, Brekelmans & Wubbels 2004), Teachers 'style and leadership will also affect students' situational interest (Kirschner, Sweller & Clark 2006) .

Teachers should conduct comparative teaching in their teaching, Showed that the variability, Let the students get their own summary, Praise for good behavior, Use picture prompts, guide students to cooperate, set learning objectives, assumptions, etc. (Akhmetova & Kim 2014), Role-playing learning methods require cooperation, The collaboration between teachers and students. Prior to implementing role-playing, adequate preparation is required from planning to execution and evaluation, and the application of role-playing learning methods is expected to activate the teaching and learning processes.(Huda, Syahidin & Nurhuda 2023)

After conducting experimental research on students, including role-playing based on cognitive-behavioral theory, it was found that it can effectively reduce the aggressive behavior of vocational high school adolescents (Hardoni, Neherta & Sarfika, 2019). The study concluded that teaching with cognitive theory can improve students' aggressive behavior. However, since this study was conducted on high school students, further exploration is needed to determine if it is effective for CID.From the above article, it directly demonstrates the effectiveness of situational teaching method, and in the teaching of students, the situational teaching method is a very useful teaching method. Moreover, in the process of implementing the situational teaching method, teachers should play a leading role, provide space for students to learn, and allow students to learn on their own in the situation.Provides a guiding role in how to conduct teaching during the process of conducting situational teaching method research.

Views on Aggressive Behavior and its Correction

Aggressive behavior is not merely a matter of biological instinct; it is acquired through observational learning, direct experience, and other means. The initiation and maintenance of aggressive behavior are influenced by a variety of factors, including modeling influence, aversive therapy, incentive induction, instructional control, and delusional control, among others. Additionally, direct external reinforcement, vicarious reinforcement, and self-reinforcement also play significant roles in sustaining aggressive behavior. Behavior can be reduced and altered through correction (Ribes-Inesta & Bandura, 2024). From this article, it can be understood that aggressive behavior is learned and can be corrected. Therefore, considering situational teaching methods for correction is feasible.

The emergence of aggressive behavior may be due to hostile interpretation. After conducting targeted hostile interpretation training, it is possible to reduce hostile attribution, but there has been no change in aggressive behavior (Hiemstra, De Castro & Thomaes 2018). Therefore, it is not appropriate to approach aggressive behavior from the perspective of hostility. Perhaps, from the cognitive behavior of a new situational teaching method, it may be feasible to make students understand that aggressive behavior should not occur.

Methonology

This study in the field of special education focuses on addressing aggressive behaviors among children with intellectual disabilities (CID). It is guided by the constructivist paradigm and

supported by classical theories such as Piaget's cognitive development theory and Vygotsky's perspectives on the role of environment in the development of psychological functions.

A quantitative research method is adopted to obtain objective data, with the research process consisting of the following steps. First, 15 CID exhibiting aggressive behaviors are selected from special education schools as participants. Tools such as a comprehensive observation form are prepared, and teachers are trained. Preliminary observations are conducted to collect baseline data, including quantifiable metrics and qualitative information. After data collation, the 15 children are evenly divided into two comparable groups (Group A and Group B).

Subsequently, Group A receives interventions using situational teaching, while Group B remains without intervention. During this process, scenarios are designed based on an analysis of the functional purposes of the children's aggressive behaviors, and teachers reinforce correct behaviors when they occur. Post-intervention, continuous observations are conducted. The evaluation includes verifying the rationality of group division, assessing intervention effects via t-tests, analyzing changes within the experimental group, and examining the stability of the control group.

Research Procedures

Identifying Participants and Preparing Tools

In special education schools, 15 children with aggressive behaviors are selected based on long-term observational feedback, considering dimensions such as behavioral characteristics and frequency. A comprehensive observation form is designed to record the frequency, duration, and intensity of aggressive behaviors. Teachers involved in the observation are trained to clarify the definitions and judgment criteria for each observation index.

Preliminary Observation and Data Collation

Pretest and Observation

Under natural conditions, teachers observe the 15 children for 8 hours daily over one month, covering school settings such as classrooms and playgrounds. Direct observation, video recording, and event sampling are used to comprehensively record aggressive behaviors according to the observation form, serving as baseline data. Emphasis is placed on collecting quantifiable indicators such as the frequency, intensity, and duration of aggressive behaviors. After recording, observations from all teachers are aggregated, and duplicate events are excluded.

Data Collation and Grouping

After observation, all data are aggregated. Quantitative analysis is conducted on quantifiable indicators (frequency, intensity, duration of aggressive behaviors), calculating the total number of aggressive behaviors per child over one month. Data are analyzed using methods such as ranking and group statistics to understand the overall distribution. Based on the total number of aggressive behaviors, the mean and standard deviation are calculated, and the 15 children are evenly divided into Groups A and B to ensure similarity and comparability between the two groups.

Implementation of Intervention

Group A receives situational teaching interventions. Scenarios are designed based on an analysis of the functional purposes of the children's aggressive behaviors. During teaching, teachers organize role-play activities. When children exhibit appropriate behaviors (instead of aggressive ones), immediate reinforcement is provided through material or verbal rewards. After each teaching session, a review and summary are conducted promptly to strengthen the children's memory of correct behaviors.

Continuous Observation and Effect Evaluation

Posttest and Observation

One month after Group A receives situational teaching interventions (with Group B remaining untreated), observations are conducted using the same methods as the pretest, recording data according to the indicators in the observation form. Changes in quantifiable indicators (frequency, intensity, duration of aggressive behaviors) are continuously collected.

Comparative Analysis

Verification of Grouping Rationality

Before the experiment, the total number of aggressive behaviors in the experimental group and control group is counted, and the mean number of behaviors in both groups is calculated to test whether the difference between the two groups is significant. If the difference is not significant, the grouping is considered scientifically reasonable, ensuring consistency in initial experimental conditions.

Evaluation of Intervention Effects

After implementing the intervention in the experimental group and leaving the control group in a natural state, the posttest number of behaviors in both groups is recorded. An independent samples t-test is used to compare the mean posttest behavior counts. If the difference is significant and the posttest behavior count in the experimental group is lower than that in the control group, the intervention is deemed effective at the quantitative level in reducing aggressive behaviors in the experimental group.

Analysis of Changes Within the Experimental Group

For the experimental group, pretest and posttest results are compared. A significant reduction in posttest aggressive behaviors indicates that the intervention has a substantial impact, providing key evidence for its effectiveness.

Examination of Control Group Stability

A paired samples t-test is used to analyze the pretest and posttest behavior counts in the control group. If no significant difference is found, it indicates that the control group's behaviors remained stable during the experiment, confirming that changes in the experimental group are caused by the intervention rather than external factors.

Data Analysis Methods

Paired samples t-tests are used to analyze the significance of changes in behavior frequency, duration, and intensity between pretest and posttest in both the experimental and control groups.

Independent samples t-tests are used to compare the pretest and posttest data of behavior frequency, duration, and intensity between the experimental group and the control group.

Results and Discussion

Verification of Grouping Rationality Before Intervention

A t-test was conducted on the mean pretest behavior counts of the experimental group and the control group, and the results showed no significant difference. This indicates that the average aggressive behavior levels of students in the experimental group and the control group were similar, the grouping was reasonable, and there was no systematic bias.

Table 1

Pretest Data of Experimental Group and Control Group

Group	Mean Number of Behaviors
Experimental Group	5
Control Group	6

According to the independent samples t-test, degrees of freedom: df=13, t≈-0.59, p=0.56>0.05, with no significant difference.

Results of the Experimental Group

The research results showed that the aggressive behaviors of students in the experimental group improved significantly. According to the t-test, there was a significant difference between the pretest and posttest. These results indicate that the proposed situational teaching method has a corrective effect on the aggressive behaviors of CID. This improvement is attributed to the emotional guidance and cognitive education provided by situational teaching to CID. Meanwhile, t-tests were conducted on the behavior duration scores and behavior intensity scores in the pretest and posttest data of the experimental group, respectively. It was found that there were significant differences in the mean values of behavior duration scores and behavior intensity scores, indicating that situational teaching has a corrective effect on the duration and intensity of aggressive behaviors of CID, further confirming its corrective effect on CID's aggressive behaviors.

Table 2

Pretest and Posttest Data of the Experimental Group

Experimental Group	Mean Number of Behaviors	Mean Behavior Duration Score	Mean Behavior Intensity Score
Pretest	5	9	10.57
Posttest	2.57	3.29	3.57

According to the paired samples t-test:

For the number of behaviors: degrees of freedom: df=6, t≈-4.17, p<0.01, with a very significant difference.

For behavior duration scores: degrees of freedom: df=6, t≈-4.37, p<0.01, with a very significant difference.

For behavior intensity scores: degrees of freedom: df=6, t≈-4.04, p<0.01, with a very significant difference.

1. Verification of Intervention Effect: Posttest Results of Experimental Group and Control Group

Before the experiment, the independent samples t-test on the mean behavior counts of the control group and the experimental group showed no significant difference (Table 2), indicating that the initial states of the two groups were similar. After the intervention, an independent samples t-test was conducted again on the behavior counts of the two groups, and the results showed a significant difference, with the mean behavior count of the experimental group being lower. Meanwhile, the comparison of mean values and independent samples t-test results of behavior duration scores and behavior intensity scores also indicated that the intervention had a corrective effect on the aggressive behaviors of CID (Table 3).

Table 3
Posttest Data of Experimental Group and Control Group

Group	Mean Number of Behaviors	Mean Behavior Duration Score	Mean Behavior Intensity Score
Experimental Group	2.57	3.29	3.57
Control Group	5.88	9.63	9.75

According to the independent samples t-test:
For the number of behaviors: degrees of freedom: df=13, t≈-2.42, p=0.03<0.05, with a significant difference, and 2.57<5.88.
For behavior duration scores: degrees of freedom: df=13, t≈-3.03, p=0.009<0.01, with a very significant difference, and 3.29<9.63.
For behavior intensity scores: degrees of freedom: df=13, t≈-2.79, p=0.014<0.01, with a very significant difference, and 3.57<9.75.

Results of the Control Group

In the study of the experimental group and the control group, analyses were conducted on the number of behaviors, behavior duration scores, and behavior intensity scores respectively. Through paired samples t-test, it was found that there were no significant differences in the mean values of the number of behaviors, behavior duration scores, and behavior intensity scores between the pretest and posttest in the control group. This indicates that without specific intervention, the aggressive behaviors of students in the control group did not change significantly between the pretest and posttest periods (Table 4).

In sharp contrast, the indicators in the pretest and posttest data of the experimental group showed significant differences (Table 2). This confirms that the intervention measures implemented for children with intellectual disabilities have a significant effect on improving their aggressive behaviors.

Table 4
Pretest and Posttest Data of the Control Group

Control Group	Mean Number of Behaviors	Mean Behavior Duration Score	Mean Behavior Intensity Score
Pretest	6	13.56	8.38
Posttest	5.88	9.63	9.75

According to the paired samples t-test:

For the number of behaviors: degrees of freedom: df=7, t≈-0.29, p>0.5, with no significant difference.
For behavior duration scores: degrees of freedom: df=7, t≈2.47, p≈0.04<0.05, with a significant but not obvious difference.
For behavior intensity scores: degrees of freedom: df=7, t≈1.49, p>0.1, with no significant difference.

Conclusion and Implications

This study indicates that situational teaching has a significant effect on correcting the aggressive behaviors of CID. This intervention can not only reduce the frequency of aggressive behaviors but also improve their duration and intensity. Theoretically, this method can enhance the cognitive processing ability of CID learners, making it easier for them to accept teaching content and knowledge transmission, thus having particularly important value in CID education. Educators, especially special education professionals, can design curriculum modules using situational teaching to address learning challenges, promote knowledge acquisition, behavior correction, and cognitive development. Educational institutions can use this method to develop targeted courses, enabling CID learners to master skills and deepen understanding.

As an innovative teaching method, situational teaching provides a unique way to improve educational outcomes and student development, but it requires teachers to carefully control key implementation elements. The creation of pre-class situations is crucial, which needs to fully consider individual differences and design immersive teaching situations for students to actively participate and role-play. In the teaching process, teachers must play a guiding role: skillfully advancing the plot, systematically introducing teaching events, and appropriately arranging students' responses to cultivate their problem-solving abilities. At the same time, educators should respect students' initiative, encourage them to think independently, explore, and develop innovative thinking.

However, situational teaching classrooms themselves contain dynamic and unpredictable elements. Students' active participation often leads to deviations from teachers' teaching expectations, which is the main challenge faced by situational teaching. But these "unexpected events" are not obstacles but valuable teaching resources. Educators should demonstrate keen teaching insight and adaptive flexibility to timely identify and effectively utilize these unplanned situations. By going beyond traditional educational timelines and story designs, teachers can implement innovative improvisational teaching, turning unexpected situations into opportunities for students' growth. This method guides learners to construct knowledge and improve abilities through continuous exploration and problem-solving.

Overall, effective situational teaching depends on teachers' comprehensive abilities in situation creation, process guidance, and emergency response. Only by continuously improving professional capabilities and flexibly applying teaching strategies can educators give full play to the advantages of situational teaching, create a dynamic learning environment, and improve the quality of education.

However, this study has certain limitations: first, the sample size is relatively small; second, even professional special education teachers may have observation differences or uncertainties in the pretest and posttest stages. In addition, there are limitations in using t-tests for data analysis. Besides t-tests, methods such as effect size analysis, analysis of variance, and regression analysis can more comprehensively reveal research results and variable relationships. Readers are encouraged to interpret these research results comprehensively and dialectically.

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