

Title : Exploring the effectiveness of Power Cards strategy in improving inappropriate mealtime behaviors of children with ASD in the inclusive classroom

Research Overview (English 50 words or Chinese 75 words)

This study evaluates the Power Cards strategy in reducing Inappropriate Mealtime Behaviors (IMBs) for a child with autism spectrum disorders (ASD). Using an ABA reverse design, results demonstrated significant decreases in IMB occurrence. This provides evidence-based practical strategies for preschool educators to improve children with special needs of nutrition and social integration in inclusive classrooms.

Purpose of Study

The purpose of this study includes the following:

1. Evaluating the effectiveness of the Power Card strategy on Inappropriate Mealtime Behaviors (IMBs) for a child with ASD.
2. Addressing the feeding challenges faced by children with ASD.
3. Providing practical solutions for inclusive education.

Research Methods

This study follows a rigorous Single-Subject Research Design, an ABA reverse design. The dependent variable was the occurrence of a child's Inappropriate Mealtime Behaviors (IMBs) and the independent variable was Power Cards strategy. A 3-year-old preschooler, Baron with ASD, who had a serious feeding difficulty during the mealtime in a mixed-aged classroom. The intervention includes a brief scenario featuring the "hero" modeling (Peppa Pig) the desired mealtime behavior aligned with a small, portable card with a picture of the hero and 3 "power rules" for the child to follow during the mealtime in preschool. The target behavior was measured by partial time-sampling recording, including picky eating and refusing food. The baseline A included the occurrence of IMBs under natural conditions behavior the intervention, the intervention B introduced the Power Cards strategy to record the change of the IMBs, and returned to baseline A the children's IMBs after withdrawing

the intervention was observed. This study used visual analysis to examine the level, trend, stability, immediate difference analysis, and the percentage of non-overlapping data (PND).

Results and Discussion

The primary result of this study is a significant reduction in the occurrence of IMBs across these two participants. This study was lasted for seven weeks.

The data is divided into three phases: Phase A (Baseline), Phase B (Intervention), and Phase C (Baseline). As indicating in Table 1.

Table 1

Summary of IMBs (Inappropriate Mealtime Behaviors) Analysis

Dataset	Phase	Date Range	Valid N	Level (Mean / Median)	Stability	Trend	PND
Baron	A (Baseline)	3/14 - 4/16	16	60.60% / 55%	Highly variable (30%-90%)	Unstable, slightly upward	-
	B (Intervention)	4/17 - 5/9	15	43.30% / 40%	Moderate-to-high variability (20%-80%)	Downward	20% (3/15)
	C (Baseline)	5/12 - 5/20	7	32.86% / 30%	Variable (10%-50%)	Variable, no clear trend	14.3% (1/7)

Baron's IMBs were highly variable (30%-90%) with a mean of 60.60% and a slight upward trend during the baseline A, indicating the behaviors were worsening or unstable. During the Intervention B, the teacher introduced the Power Card led to a decrease in the mean level of IMBs to 43.30% with a clear downward trend. However, the PND was only 20%, suggesting that while there was improvement, there was significant overlap with baseline performance. After withdrawing the Power Card, the behaviors continued to decrease to a mean of 32.86%, though the data remained variable during Phase C. Although the impact of Baron was more gradual and variable, the results of Power Card strategy showed the effectiveness. The maintenance data suggests that the Power Card strategy has strong "carry-over" effects, even after the active intervention phase concluded. The Power Card strategy is a viable evidence-based practice for managing mealtime behaviors for

children with special needs in preschool, showing strength in stabilizing and maintaining long-term results. The discussion includes reliability of intervention, impact of the behavioral maintenance, and clinical significance.

Keywords (maximum five)

Inappropriate Mealtime Behaviors (IMBs), Percentage of Non-overlapping Data (PND), Power Card strategy, Autism Spectrum Disorders (ASD)