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Chip in behaviour modification in primary year two hyperactivity kids through signal card and good behaviour game token

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ABSTRACT

The purpose of this action research is to reduce 'chipping behavior' and talking without permission among Year 2 hyperactive children in a primary school in Kedah, Malaysia. This behavior is identified as a main challenge in classroom management because it interrupts the smooth flow of teaching and learning and can negatively influence the involvement of other students. This research employed a mixed design involving five hyperactive students as qualitative observation samples and 33 teachers as quantitative survey respondents. Two interventions were applied over a two-week period: the Signal Card strategy and the Good Behavior Game Token system. The results indicate that both interventions were effective in reducing talking without permission and improving students' self-control, concentration, attention span, and overall classroom engagement. The teachers found the practicability of the interventions easy to implement and suitable for Year 2 students. The study suggests that the consistency of using positive reinforcement interventions must be supported by both teachers and families to sustain behavioral improvements over time and ensure long-term success. These results offer valuable insights into behavior management practices for young hyperactive students and reveal that simple, structured interventions can foster a more encouraging learning environment. The findings also propose the possible adaptability of the interventions across different classroom situations.

Contribution/ Originality: This research demonstrates its originality by integrating the Good Behavior Game Token system with the Signal Card strategy to reduce impulsive "chip-in" behavior among Year 2 hyperactive primary school students. While most previous research employed single interventions, this study introduces a mixed-method approach that is low-cost and tailored to Malaysian primary classrooms.

1. INTRODUCTION

In this 21st-century era of education, teachers must empower themselves with diverse knowledge, skills, and strategies in managing classrooms effectively (Savić, Cekić-Jovanović, & Shin, 2019), including managing students' behaviours, especially among students with hyperactivity trait (Utilova, Khamzina, Syrymbetova, & Shakenova, 2024; Wahyuni, Ningsih, Fitri, & Utami, 2025). One of the main issues is controlling hyperactive students who talk and chime in without permission. This impulsive behavior affects the effectiveness of teaching and learning, interrupts classmates, and increases teachers' pressure (Golub, Lesyk, & Scherbakova, 2022) and hinders teachers from

delivering lessons and materials effectively (Tambunan, Munthe, Damanik, & Nababan, 2024). This action research was conducted at a primary school in Kedah involving Year Two students. The school consists of 35 teachers and 355 students. Researchers' observations identified that 5 students frequently chip in and talk without permission. This problem must be addressed to maintain effectiveness and create a conducive environment in the classroom.

The teachers at this school are facing the challenge of controlling hyperactive students who frequently like to chip in during the teachers' conversations, skip lines, and lose focus. This is the cause of noisiness in the classroom, negatively impacting teachers' emotional states and affecting teaching and learning. The objective of this study is to identify the factors contributing to the chip-in behavior and talking without teacher permission among hyperactive students, to determine appropriate interventions to overcome this problematic behavior, and to evaluate the effectiveness of the token system intervention and signal card implementation.

A study by Fabio, Mento, Gangemi, and Picciotto (2023) confirms that this behavior is an ADHD symptom, such as hyperactivity and inattentiveness, which increases classroom entropy and leads to higher stress levels for teachers. This disrupts teacher-student communication, adversely affecting both teaching efficiency and the inclusive learning environment. A study conducted in Indonesia by Rizqi, Permana, Reygita, Rostika, and Sudarmansyah (2024) shows that hyperactive behavior in students disturbs the learning progress, weakens concentration, and creates classroom noise, depressingly affecting teachers' emotional states and overall teaching efficacy.

Pervaiz, Lashari, Khan, and Bushra (2024) study among urban school area students in Pakistan shows that uncommon noise interruptions with hyperactive students will hamper active communication and attention, undesirably affecting teachers' emotional states and students' cognitive development, eventually leading to reduced academic performance and challenges in realizing learning objectives. According to Groen, Gaastra, Tucha, and Tucha (2016), hyperactive children regularly struggle with impulsivity, frequently calling out and losing attention, which contributes to classroom noise and disturbs learning. Students who talk out of turn can disrupt the flow of lessons, making it hard for their peers to focus and engage in learning.(Hou, Ahmad, & Zhao, 2024).

This behavior can cause teacher pressure, too, especially if they lack the skills to cope with these challenges efficiently. Kurteshi and Rrustemi (2024) signify that hyperactive students normally show behaviors like jumping, running, and a lack of focus, which creates classroom noisiness. Teachers report that these behaviors depressingly influence their emotional state and the overall teaching and learning environment.

Hamid and Azizee (2024) point out that talking without permission will undesirably impact teachers' emotional states and disturb the teaching and learning environment, which later will impact job dissatisfaction among teachers (Vidić, 2022) and potentially lead to burnout and stress (Groen et al., 2016). These undesired behaviors disturb classroom management, lower motivation, and lead to emotional distress for teachers (Kazak & Koyuncu, 2021). A Study by Muna (2019) shows that teachers facing this problem experienced health-related issues and various emotional problems due to disruptive behavior. It not only affected instructional time but also hindered the learning quality of other students.

In fact, hyperactivity behavior has been long studied. According to Skinner's theory of operant conditioning, behavior can be changed through positive or negative punishment. The use of rewards like tokens has been proven to strengthen positive behavior (Blenkush & O'Neill, 2020). Robinson, Newby, and Ganzell (1981) pointed out that the students were completing more tasks and achieving higher marks on tests compared to before the intervention period. A study by Sari (2024) found that reward token intervention significantly enhanced attention and reduced impulsive behavior in a hyperactive child. It indicated that rewards like tokens can effectively reinforce positive behavior, especially among students with hyperactivity disorder. Dalal and Kusum (2025) pointed out that rewarding desirable actions with tokens will improve students' discipline, involvement, and interaction. It was effectively used to reduce hyperactive behavior, especially in children with ADHD, by enhancing their ability to sit quietly and concentrate on tasks (Hidayat, 2021).

2. METHODOLOGY

This action research employs a mixed quantitative and qualitative design. From the 22 second-year children observed, 5 of them are identified as hyperactive. Thirty-three teachers participated in an open-ended Likert scale survey. The observation checklist form and notes anecdote recorded the frequency of disruptive behavior, talking without permission, and self-control issues. A Google Form survey with 15 items on a Likert scale was distributed to examine the factors contributing to undesired behavior, the effectiveness of interventions, and suggestions for improvement. The token rewards intervention system and visual card signals were implemented over two weeks. Children received tokens when waiting their turn, refraining from disruptive behavior, and complying with rules and regulations. Tokens could be redeemed for stickers, additional playtime, or gifts and rewards. Record charts were posted in the classroom as visual motivation. The study follows the PDCA (Plan–Do–Check–Act) cycle. Initial observations were conducted, interventions implemented, behavioral changes recorded, and findings analyzed.

3. FINDING AND ANALYSIS

Studies indicate that prior to intervention, students interrupted 5–7 times every 30 minutes of teaching and learning time. Following the intervention, this frequency decreased to 2–3 times. Students demonstrated increased responsiveness to cue cards, greater focus, and a higher willingness to wait their turn to speak. Positive behavior records show students remaining quiet when shown a red card, refraining from interrupting, and paying attention for longer periods compared to before the intervention. Table 1 presents data involving 33 teachers (N=33). A survey questionnaire on the agreement with the implementation of the intervention revealed that 85% of teachers agreed that the intervention reduced classroom disruptions. The highest agreement was that the intervention decreased the frequency of chip-in (90%, M=4.50, SD=0.55). Additionally, 88%, M=4.40, SD=0.60, of teachers assessed that the intervention was suitable for students' needs. Teachers also agreed that the intervention helped students focus on learning (85%, M=4.25, SD=0.62), and 80%, M=4.00, SD=0.70 of teachers observed that students exhibited positive attitude changes after the intervention.

Table 1. Chip in behavioural modification intervention, teachers' agreement.

Items	Percentage	Mean score	Standard deviation
Intervention helps students focus on learning	85%	4.25	0.62
Intervention reduces the frequency of chips in	90%	4.50	0.55
Students demonstrate a change to a positive attitude after intervention.	80%	4.00	0.70
Interventions suitable for the needs of students	88%	4.40	0.60
Average N=33	85.79	4.29	0.62

Table 2 shows that the level of teachers' readiness to implement the intervention using a reward system based on a questionnaire involving 33 teachers (N=33), is high. 85%, M=4.25, SD=0.62, of teachers agreed that this intervention was easy to implement. 88%, M=4.40, SD=0.58, of teachers agreed that they were willing to apply the intervention in the next teaching session. 90%, M=4.50, SD=0.55, of teachers agreed that the intervention should be shared with colleagues. This is the item with the highest score, indicating strong teacher confidence in the effectiveness and usefulness of the intervention to be applied more widely. Overall agreement percentage is 87.7%, M=4.38, SD=0.58; teachers showed a high level of readiness, consistency, and positivity towards the implementation of the reward system.

Table 2. Reward system's teachers' readiness agreement.

Items	Percentage	Mean	Standard deviation
Teachers feel that the intervention is easy to implement	85%	4.25	0.62
Teachers are ready to implement the intervention in the next teaching and learning session	88%	4.40	0.58
Teachers suggest sharing the intervention with other teachers.	90%	4.50	0.55
Average N=33	87.7	4.38	0.58

An open-ended answer indicates that the teacher suggests reward variations, training for teachers and parents, the use of more interesting cards, and student involvement in setting criteria, as shown in Table 3.

Table 3. Signal card intervention and token system: teachers' suggestions/feedback.

Teachers' feedback	Themes
Comprehensive assessment before intervention	Customization based on the individual needs
Change buzzles and existing rewards once in a while	Varied the rewards
Teachers and parents' workshop and illustrated manual	Practice and support implementation
Variation cards based on behavioral categories, rewards at various levels, and involve students in the reflection process.	Varied the approaches and students' involvement.
Fine and gross motor activities for active students	Additional physical intervention
Prepare the audio	Additional audio elements reinforcement
The signal card is not suitable	Compatibility of intervention material
Interesting and varied the teaching methods	Presentation variation
Combine the reward material and social aspects, involve the students, specify criteria, and focus on positive values.	Holistic rewards and intrinsic motivation
Consider the popular rewards	Reward compatibility
Periodic briefing card for the teachers	Evaluation and periodic card
Colourful card, cartoon character, rewards, play stickers	Interesting design and creative rewards
Hyperactive students are suited to learn through play as compared to a token system.	Hyperactive students approach compatibility.
Colourful card	Interesting visual graphic
Standardize mandatory interventions for all classes.	Standardize implementation
Rewards variation and involve parents	Parents involvement and rewards variation
Specific practice session to understand the signal and the token	Introducing the system systematically
Frequently implementing but not overworking, can use digital systems.	Implementation frequency and digital approach

3.1. Teacher Observation on Hyperactive Students

Observations conducted by teacher A on 13 July 2025 found that five hyperactive students (M1–M5) exhibited major behavioral problems during teaching and learning sessions, especially interrupting, not waiting for their turn to speak, failing to follow instructions, and having difficulty controlling emotions. Interrupting behavior occurred at a high rate (5–7 times per student), while M2 and M5 most often did not wait their turn (3 times). Responses to reprimands were also less than satisfactory; for example, M3 only remained quiet after being reprimanded several times, while M4 quickly became frustrated when given a warning. Notes showed that students often ignored instructions, lacked focus, and were difficult to control verbally. Overall, the initial findings confirmed the low level of impulsivity and self-control among these hyperactive students.

To address the issue, an intervention using cue cards and a token system was implemented on 16 July 2025. Post-intervention observations showed significant positive changes. Interrupting behavior consistently decreased; for example, M1 and M4 decreased from 7 times to 3 and 2 times, respectively, while M3 decreased from 6 to 2 times.

Not waiting for the turn behavior also decreased, especially M5 (from 3 times to 1 time). Although M4 remained at 2 times, the majority of students demonstrated better impulse control by attempting to wait their turn to speak.

Response to reprimands also improved. Whereas previously students needed to be reminded repeatedly, after the intervention, most only needed one reprimand. M5, who previously disobeyed completely, is now able to focus when shown a card and given a token reward. Emotional changes were also noted; for example, M4, who was previously easily frustrated, became calmer after receiving positive reinforcement.

Table 4 shows the comparison of the frequency of interruptions, demonstrating an overall decrease in negative behavior (from 5–7 times to only 2–3 times). These findings reinforce the effectiveness of structured visual strategies combined with a consistent reward system in helping hyperactive students manage impulsivity, improve focus, and adapt to classroom social rules.

Table 4. Frequency comparison before and after intervention.

Student's code	Before intervention	After intervention	Positive modified behaviour
Student 1	7 times	3 times	-4 times
Student 2	6 times	3 times	-3 times
Student 3	6 times	2 times	-4 times
Student 4	7 times	2 times	-5 times
Student 5	5 times	3 times	-2 times

Overall, the study findings show that the cue card and token system intervention not only successfully reduced the main behavioral problems of hyperactive students but also helped to improve self-control, compliance with instructions, and readiness to learn. Although there was variation in individual results (for example, M4 showing less change in certain aspects), this approach proved to be practical, low-cost, and effective for continuous application with minor adjustments according to the needs of the students.

4. DISCUSSION

The findings show that positive reinforcement-based interventions through token and cue card systems are effective in changing the behavior of hyperactive students. Students become more sensitive to visual instructions and more motivated to comply with class rules. The findings align with those of Dewi and Wayuni (2023) and Puryanti (2022), which demonstrate that token economy methods successfully improve motivation and behavior modification in students, particularly those exhibiting disorderly behavior. Hidayat (2021) proved that the economy token efficiently decreases hyperactive behavior in children with ADHD, allowing them to sit silently and concentrate on tasks. Though this finding does not explicitly address signal card systems or their influence on visual directions and motivation. The study suggests that future research should focus on these issues.

However, several challenges need to be overcome, including that students may rely on external rewards without developing intrinsic self-control. Interventions implemented require teacher consistency; otherwise, their effects diminish. Students might become excessively dependent on tokens, thus hindering the growth of intrinsic self-control (Levi, 2023). This can lead to the absence of motivation when prizes do not exist (Heiniger, Tucker, Hott, & Randolph, 2022). Token economies can also condition students to expect rewards for all good behaviors, potentially weakening their natural disposition to engage in appropriate behaviors without external encouragement (Smith, Guimond, St-Amand, Olivier, & Chouinard, 2022). Certain hyperactive students are more suited to a play-based learning approach. Therefore, interventions need to be diversified and enriched with elements of moral values and parental involvement so that their effects are long-lasting. Astuti and Thohir (2024) suggest that traditional games are rich in cultural morals, improve character education by encouraging collaboration, trustworthiness, and discipline among students. Other challenges include the lack of consistency in using tokens, which diminishes their effectiveness, as students may not value the tokens. Therefore, consistency in application is required for teachers to use it effectively Heiniger,

Tucker, Hott, & Randolph (2022). Thus, this study suggests that intervention with traditional games and plays among students' 'chip in' and talking without permission behavior will be implemented by the teachers.

5. CONCLUSION AND IMPLICATION

This study demonstrates that the cue card intervention and token system effectively reduced talking without permission among hyperactive Year 2 students. Positive changes were observed in self-control, focus, and student discipline. The implications of this study suggest that teachers can apply token interventions consistently to foster a conducive classroom environment. Schools should provide training and support to teachers, and parental involvement is essential to ensure the intervention continues at home. Overall, this approach has the potential to serve as a relevant and innovative classroom management strategy in 21st-century education.

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