

Reducing negative attention seeking behaviour by using differential reinforcement of an alternative behaviour (DRA)

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ABSTRACT: The case study demonstrates the application of differential reinforcement of an alternative behaviour (DRA) can successfully reduce inappropriate negative attention seeking behaviours. By teaching a variety of communication and social interaction skills, the pupil increased the use of different social approaches to engage with adults and peers appropriately. Besides, by teaching the pupil to complete a task or an activity independently, the pupil developed a range of meaningful activities he can engage other than engaging in negative attention seeking behaviours to gain attention from the adults. At the end of the Spring term 2023, the pupil negative attention seeking behaviours were significantly decreased. It increased the pupil's independence and promoted effective learning for the pupil in a school environment.

Introduction

This case study focuses on an 8-year-old pupil in Key Stage 2 in the school years 2022-2023. Since the pupil started at Park House School, the pupil appeared comfortable in the new school environment. The pupil enjoyed bouncing on the yoga ball, looking out of the windows for the buses passing by, watching videos on YouTube, and playing with different musical instruments especially the xylophone. The pupil was able to follow and complete familiar school routine, including toileting, transitioning, and having lunch or snack independently. The pupil was highly motivated to communicate his needs and desires to adults vocally and spontaneously with single words when he first started at Park House School. The pupil responded well to 3-steps receptive instructions. The pupil did not present any problem behaviour when acquiring new academic skills or engaging with the adult with 1 to 1 attention.

The following situations were identified as barriers for the pupil when attention was shared, change of routine, and when required to participate in group activities. The pupil's negative attention seeking behaviours including throwing objects out of the window, locking, and unlocking the door lock repeatedly, opening and closing door repeatedly to gain specific corrective feedback from the tutor or teacher (e.g., don't do this, stop etc.). The behaviour increased and intensified specially in a group setting or when he was engaging in independent tasks while the adult did not engage attention with him, as the adult's attention was divided. The pupil showed very little social interest to peers compared

to adults.

The purpose of this study is to introduce and reinforce the alternative behaviours with extinction and hence, to reduce the negative seeking behaviours. The interventions included, introducing close-ended task activities, developing the pupil communication and social interaction, eliminating the specific verbal corrective feedback when the target behaviours occurred, and redirecting the pupil to evoke appropriate responses.

Literature Review

Inappropriate negative attention-seeking behaviours can significantly impact individuals' functioning and relationships, particularly in clinical and educational settings. Differential Reinforcement of Alternative Behaviour (DRA) is a behaviour management technique that aims to decrease these maladaptive behaviours by reinforcing appropriate alternative behaviours. This literature review provides an overview of studies that have investigated the effectiveness of DRA in reducing inappropriate negative attention-seeking behaviours.

Several studies have highlighted the positive impact of DRA in decreasing inappropriate negative attention-seeking behaviours. Fisher et al. (1993) conducted a study with children diagnosed with attention deficit hyperactivity disorder (ADHD) and found that implementing DRA interventions significantly reduced attention-seeking behaviours and increased appropriate alternative behaviours. Similarly, Sturmey and colleagues (2012) conducted a meta-analysis of multiple studies and reported that DRA interventions were effective in reducing inappropriate attention-seeking behaviours across a range of populations, including individuals with intellectual disabilities and autism spectrum disorders.

In sum, DRA interventions have consistently shown promise in reducing inappropriate negative attention-seeking behaviours across various populations. The findings emphasize the importance of implementing DRA techniques as part of comprehensive behaviour management plans in clinical and educational settings.

Method

Differential reinforcement of an alternative behaviour (DRA) was

applied in this case study to increase the pupil's appropriate behaviours and reduce the inappropriate target behaviours. The interventions as follow:

Engaging in close-ended task or activity independently

The pupil was introduced a variety of close-ended activities or tasks (including reading a book, re-storing the environment after finishing an activity, completing worksheets, and building puzzles etc.). The pupil required to complete the task or activity which assigned by the tutor 1-minute independently without adult's prompts or attention. The pupil received reinforcement (e.g., verbal praise or choose an activity to engage with the tutor) when the pupil completed the task or activity that was assigned without presenting target behaviours.

Expanding communication and social interaction skills

When the pupil joined Park House School at the beginning of the academic year, he was able to mand (request) spontaneously in different contexts using single words. To further develop the pupil's communication, the pupil extended the length and expanded the range of sentence carriers (including 'I want', 'help me to', and 'can I').

The pupil learnt to develop appropriate social interaction with adults and peers by engaging in turn taking games and activities with his tutor and peers. During the game or activity, the pupil would call out turns to increase appropriate communication and interaction with both adults and peers.

The pupil learnt to share his experience with others by showing a task which completed by himself or a photo of himself engaging in an activity (e.g., playing in the Adventure Playground). With the tutor's prompt, the pupil shared himself about what he did. By sharing his experience, the pupil developed his understanding of appropriate and positive social interaction with others to gain attention from others.

The pupil also learnt to mand (request) from peers. During the practice, the tutor would set up the situation that a peer holding up the pupil's highly motivated reinforcer (e.g., a toy train) for the pupil to make request from the peer directly to increase his social interest to peers.

Extinction and redirection to appropriate behaviours

The function of the target behaviours was attention. The target behaviours were maintained and reinforced by the adult's specific verbal feedback (attention). Extinction procedure was in place to the target behaviours. The tutors removed the reinforcement (specific verbal feedback - 'stop', 'don't do this', or 'it is finish. Let's come back') when the target behaviours occurred.

One way in which the target behaviours were reduced through redirection to appropriate behaviour. An example of this is the pupil locking and unlocking the door lock after using the toilet. Following the DRA approach, this behaviour was put on extinction, which means that the tutor removed the attention of the target behaviour by refraining to provide the specific corrective feedback (e.g., "let's leave the lock alone"). Instead, the tutor who worked with the pupil at the time redirected the pupil to complete the toileting routine (e.g., "let's wash our hands now"). The tutor switched the attention which reinforced the target behaviours (locking and unlocking the door lock at the toilet repeatedly) to appropriate behaviours (follow and complete the toileting routine).

Results

Over the academic terms, the pupil has shown a decrease in the target behaviours through developing a range of alternative behaviours. The pupil has been introduced to engage in close-ended tasks and activities, expanded communication and social interaction skills by engaging turn taking activities, sharing his experience, making request from his peers, and expanded the complexity of his sentence structure. With extinction procedure was applied, it eliminated the attention which maintained the target behaviour. The extinction led the target behaviour decreased (see graph 1) at the end of Autumn term 2023.

Furthermore, the pupil has shown improvement in attending group lessons and activities by sitting for the entire session (30 minutes) and following instructions in average 88% of the time at the end of Spring term 2023, whereby the pupil only followed instruction in average 57% of the time at the beginning of Spring term 2023. The pupil demonstrated more negative attention seeking behaviours (i.e., flopping to the floor, leaving, and coming back to the demand area repeatedly, and opening and closing the door repeatedly) during group lessons or activities at the beginning of Spring term 2023 (see graph 2).

The pupil made progress and acquired 5 alternative behaviours that were introduced and taught.

Engaging an independent task or activity independently

The pupil started with completing an independent task or activity (i.e., reading a book, tidying up the environment, completing a colouring or academic worksheet, and doing a set of puzzles) with a short interval (20 seconds) at the beginning of the Spring term 2023. At the end of the Spring term 2023, the pupil achieved to all the listed independent tasks or activities for 1 minute without presenting any target behaviours or requiring prompt (see table 1).

Expanding communication and social interaction skills

Extending the length and expanded the range of sentence carriers (including 'I want', 'help me to', and 'can I') – The pupil was introduced in using 'help me to...' (January 2023), identify using

'help me to ...' vs. 'I want to...'. (at the beginning of February 2023) and using 'can I ...' (in the mid-February). The pupil achieved all the targets and generalised to different tutors by using different carriers when making request at the end of Spring term 2023 (see graph 3.1, 3.2, and 3.3).

Engaging in turn taking games and activities with his tutor and peers – The Pupil was introduced to Connect 4 and Popup T-rex with a peer for 1 minute in January 2023. The pupils achieved to engage in both turn taking games with a peer for 2 minutes at the end of Spring term 2023 (see table 2).

Sharing his experience – The pupil was introduced to share a photo of an activity to a peer at the beginning of Spring term 2023. However, the pupil did not achieve the target. The success-rate for the target was 29% in average at the end of Spring term 2023 (see graph 4). The pupil required prompt to share his experience to a peer. Pre-requisite skills were required to develop and increase the pupil's social interest to peers in order to achieve the target.

Manding (requesting) from peers – The pupil has been learning to request to peers with adult's prompt to pair the tutor's and peers' social interest. The target was introduced at the beginning of Summer term (April 2023). The pupil achieved 60% of the time requesting independently to a peer in the Mid-Summer term (June 2023; see graph 5). The target has been progressing.

Discussion and conclusion

In the current case study, the pupil successfully reduced the negative attention seeking behaviours by using DRA to promote desirable behaviours in social and communication skills, extended the pupil's attention span in groups, increased the pupil's independence, in order to increase effective learning in a school setting.

The current case study indicated that the inappropriate behaviours were reduced by teaching the pupil alternative behaviours proactively. At the end of the academic year, the pupil developed a range of appropriate social and communication skills in order to reduce the negative attention seeking behaviours. The interventions included completing an independent task or activity and expanding communication and social interaction skills. The pupil achieved most of the targets which were set at the

beginning of Spring term 2023.

To select an appropriate alternative behaviour or a target, the pupil's strengths have been the greatest consideration in this case study. For example, one of the pupil's strengths was following familiar school routines which led for the pupil to be able to achieve in engaging a closed-ended independent task. By understanding the pupil had a variety of items or toys that he would motivate to make request for, the pupil achieved in the target of expanding sentence structure and carrier phrases and progressing in making request from a peer. The pupil enjoyed the attention or reaction given by the adults which maintained the attention seeking behaviours. By removing the attention to the inappropriate behaviour (extinction) and only offer attention when appropriate or desirable behaviours occur successfully reduced the pupil's negative attention seeking behaviours.

Considering one the disadvantages of applying extinction, the negative attention seeking behaviours may occur again at some point of the time even though it was decreased, which it's called spontaneous recovery, teaching alternative behaviours became the key success to decrease or eliminate the negative attention seeking behaviours in the future. Another disadvantage of applying extinction would be the intensity of the behaviour or whether the behaviour was dangerous towards the pupil himself or others. Extinction may cause emotional outburst as the reinforcement was not available. Although the pupil presented throwing items out of the window at the beginning of the academic term, extinction was not in place for that behaviour at that time as it could potentially harm others. In this case, a redirection was applied before the pupil reached to the window (e.g., asking him to help for tidying up the chairs instead of going to the window).

References

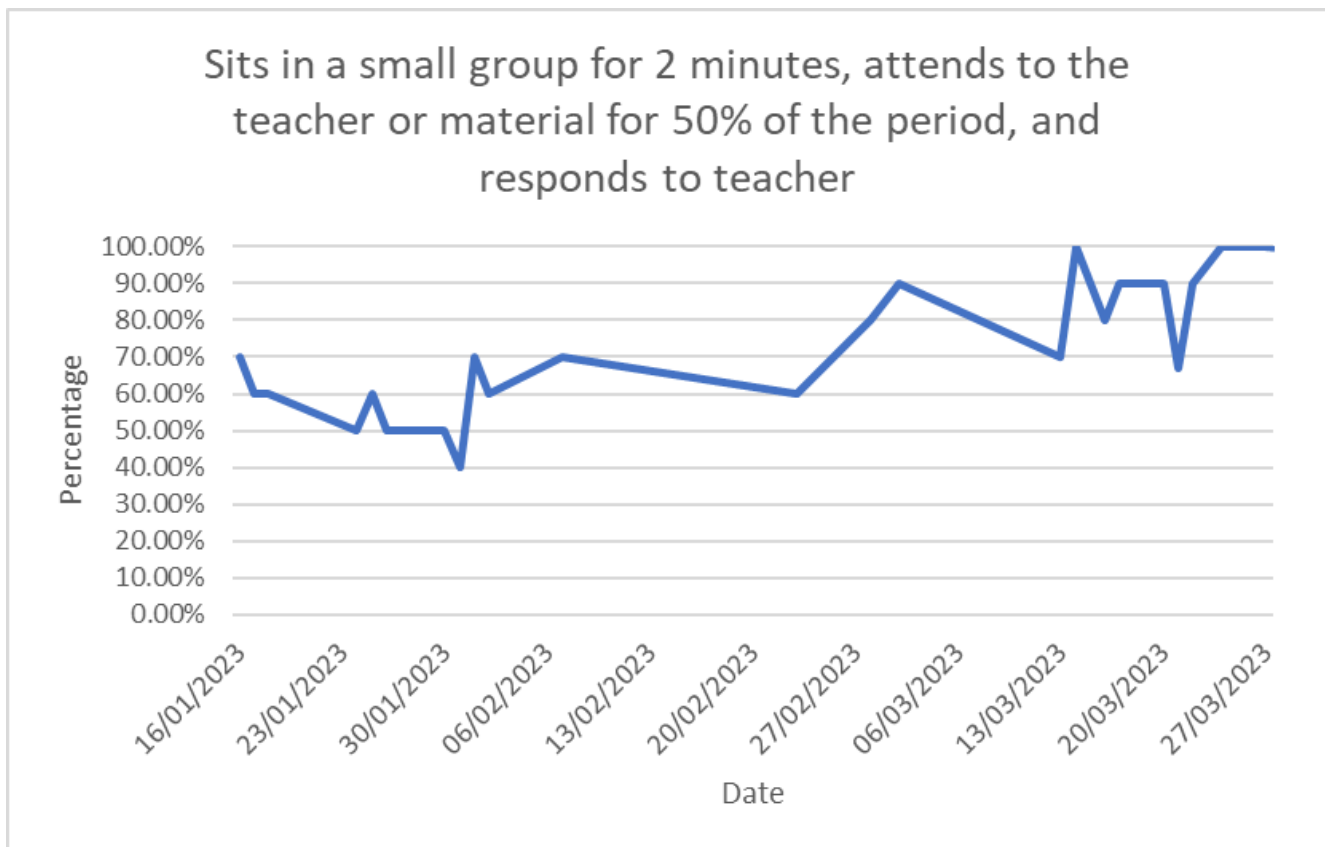
Fisher, W. W., Piazza, C. C., Cataldo, M. F., Harrell, R., Jefferson, G., & Conner, R. (1993). Functional communication training with and without extinction and punishment. *Journal of Applied Behavior Analysis*, 42(4), 715-730.

Sturmey, P., Hersen, M., & Tener, G. M. (2012). *Handbook of evidence-based practice in clinical psychology*. John Wiley & Sons.

Appendices



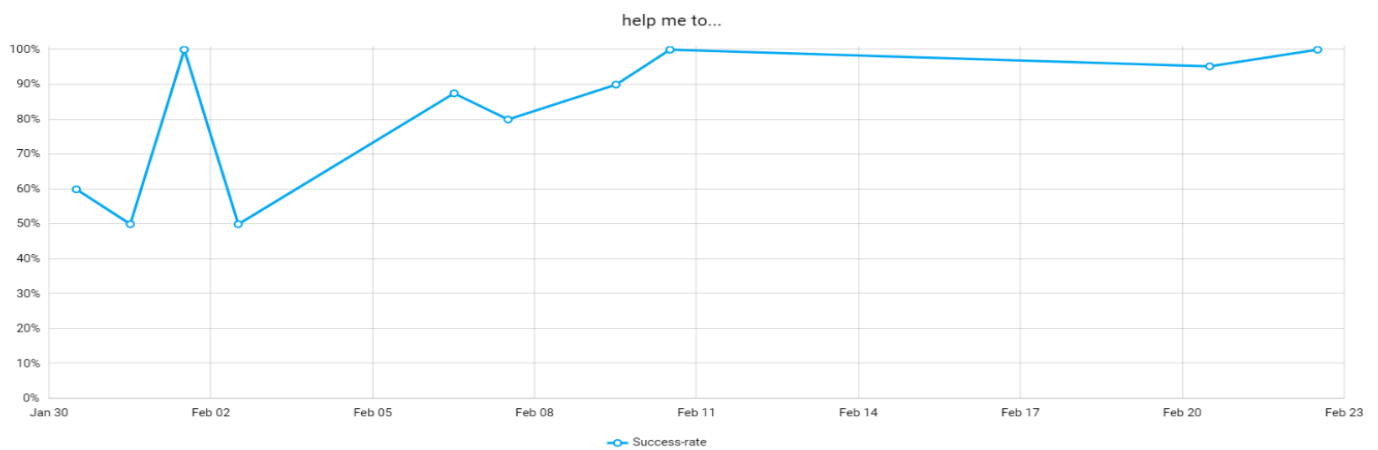
Graph 1: Targeted behaviour – locking and unlocking door lock repeatedly.



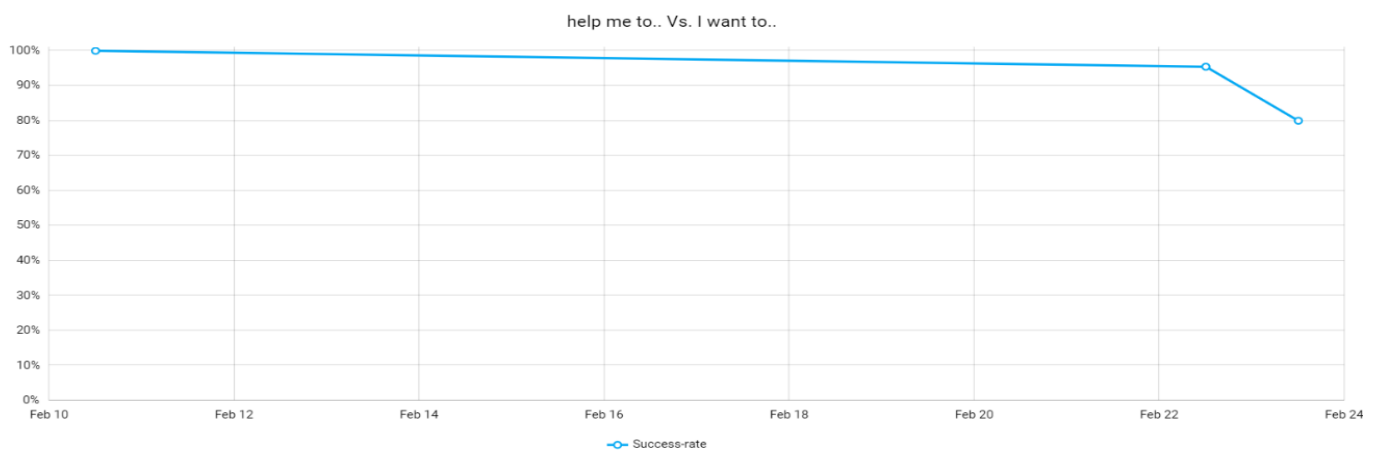
Graph 2: Sits in a small group for 2 minutes, attends to the teacher or material for 50% of the period, and responds to teacher at the end of Spring term 2023.

Target	Status	Introduced	Mastered
Bouncing on yoga ball 22 Seconds	✓ Closed	25/01/2023	30/01/2023
Reading a book 23 seconds	✓ Closed	25/01/2023	09/02/2023
Maths Worksheets 20 Seconds	✓ Closed	25/01/2023	30/01/2023
Tidy up pens and pencils (30 seconds)	✓ Closed	30/01/2023	09/02/2023
Colouring worksheet (30 seconds)	✓ Closed	30/01/2023	09/02/2023
Filling in multiplication table (30 seconds)(M)	✓ Closed	10/02/2023	23/02/2023
Filling in multiplication table (at least 20 missing gaps)	⚠ Mastered	24/02/2023	01/03/2023
Completing worksheet (at least 10 missing questions) (M)	✓ Closed	20/02/2023	23/02/2023
Completing worksheet (at least 20 missing questions)	⚠ Mastered	24/02/2023	02/03/2023
Tidy up cookware and cutlery (30 seconds)(M)	✓ Closed	22/02/2023	23/02/2023
Tidy up cookware and cutlery (at least 20 items)	⚠ Mastered	24/02/2023	02/03/2023
Maths work sheet (1min)	✓ Closed	02/03/2023	16/03/2023
Puzzles (1min)	✓ Closed	02/03/2023	13/03/2023
Work sheet (1min)	⚠ Mastered	02/03/2023	22/03/2023
Tidy up cutlery (1min)	⚠ Mastered	13/03/2023	24/03/2023
Reading book for 1 min	⚠ Mastered	17/03/2023	22/03/2023

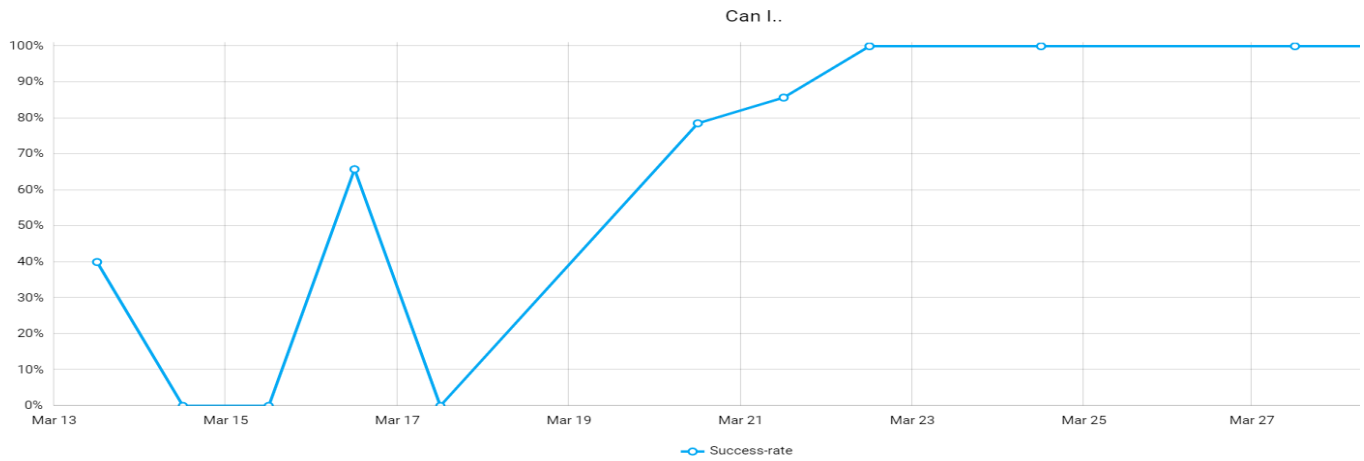
Table 1: works independently on a task or activity for 1 minute without prompts or reinforcement at the end of Spring term 2023.



Graph 3.1: mands occur with 3 different carrier phrases ('help me to...')



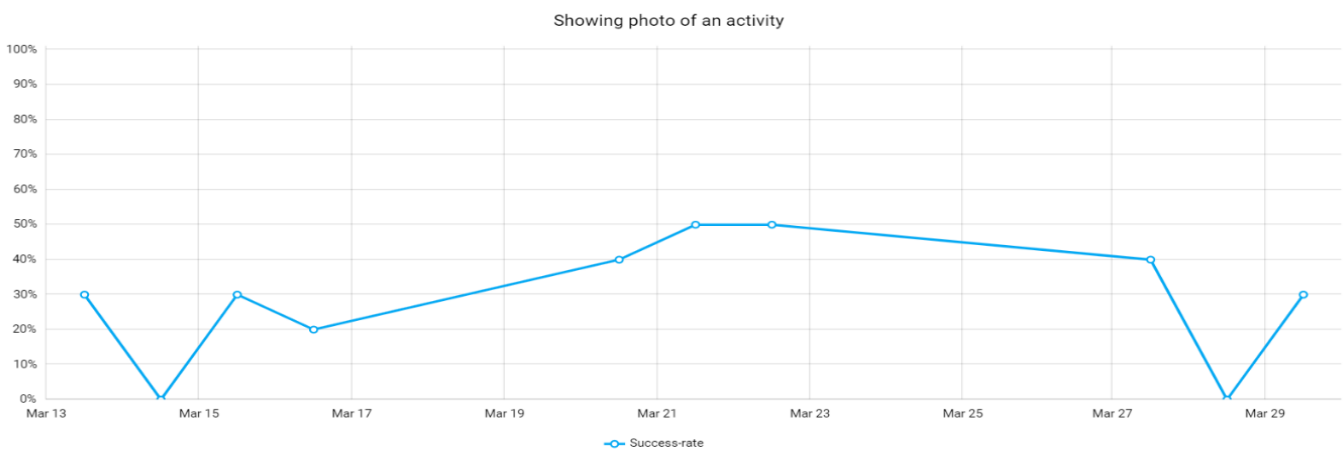
Graph 3.2: mands occur with 3 different carrier phrases ('help me to...' vs. 'I want to...')



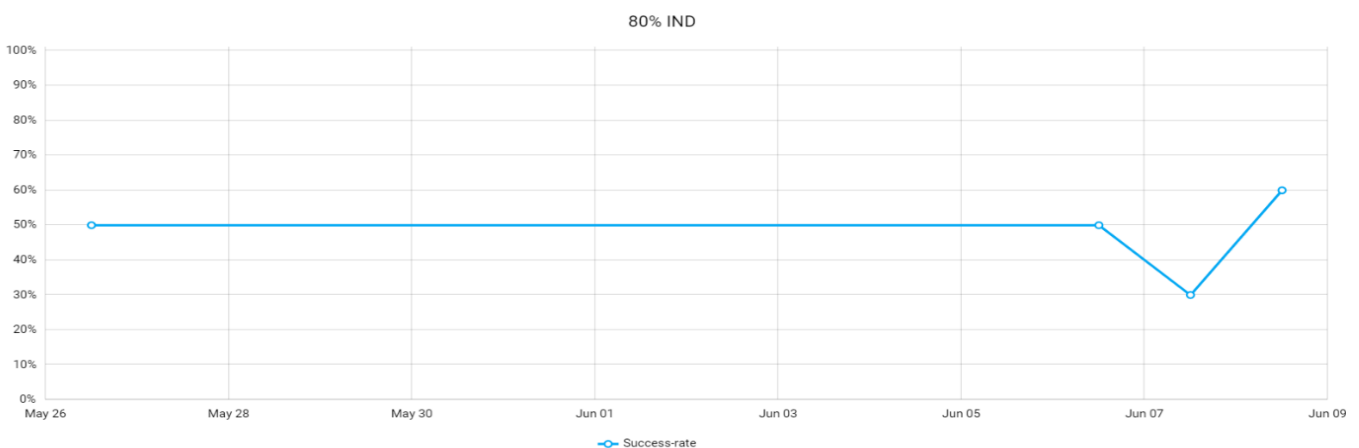
Graph 3.3: mands occur with 3 different carrier phrases ('can I...')

Target	Status	Introduced	Mastered
Connect 4 (2 minutes) M	✓ Closed	30/01/2023	09/02/2023
Pop up t-rex (1 minute) M	✓ Closed	30/01/2023	02/02/2023
Pop up t-rex (2 minutes) M	✓ Closed	30/01/2023	13/03/2023

Table 2: engages in turn taking activity and wait for turns with a peer



Graph 4: shares experience – showing photo of an activity



Graph 5: mands (requests) to peers with adult prompts