

The effectiveness of implementing a food programme to increase consumption of food

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Executive summary

This case study will review the effectiveness of implementing a food programme for an individual who has a limited preference of food. It will give a brief history of the pupil and their issues with food and why a food programme needed to be introduced. The case study will then evaluate the success of the food programme in comparison to the expectation over the term.

Introduction

This case study is about an 8-year-old in a Key Stage 2 class with 7 other pupils. They are a vocal learner who is very independent in their eating, dressing and toileting skills and can independently use an iPad and computer to play their favourite games and videos. ABA has been a successful method in teaching the pupil such skills and at enhancing their communication. They have difficulties around food in terms of both actual consumption and the variety of food which they will eat. A food programme was therefore introduced to reward their efforts for eating by determining the highest reinforcement. This will be further detailed below.

We wanted to answer the question: How successful was the implementation of a personalised food programme in increasing the consumption of food by this pupil?

Analysis and evidence

The individual involved previously had issues with eating food and would not keep it down when consumed. They would hold it all in their mouth which caused them to gag and vomit. A food programme was introduced whereby they would receive crisps and sweets as reinforcement for eating their food. The first step in this food programme was for them to eat one level spoonful of the target food followed by a whole sweet or crisp as reinforcement (Appendix A). At each step, they were

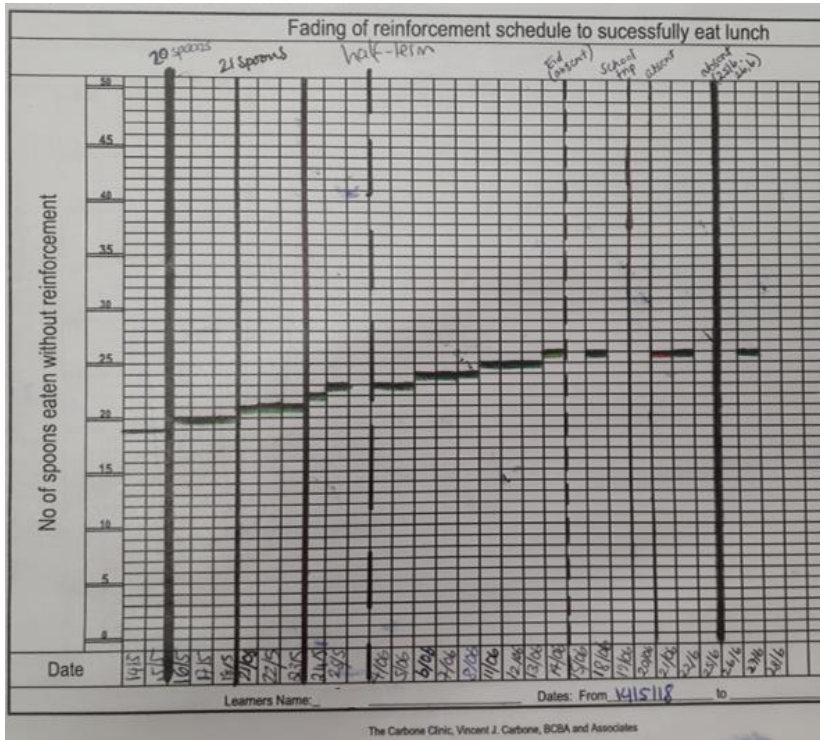
were expected to eat over 90% of their lunch for 4 days before moving on and fading out the reinforcement. They responded very well to the set food programme so it was reviewed to determine whether we could fade out edible reinforcement. An assessment was completed to conclude the most effective alternative reinforcement and an iPad or the computer was the highest reinforcer.

The end result that we expect to see from the food programme is that the pupil will be able to eat their entire lunch before receiving the iPad as terminal reinforcement (Appendix B). The food programme has so far been extremely effective in encouraging them to finish his lunch. The expectation of the food programme across the Summer term was for the pupil to successfully eat 25 spoonfuls of lunch before receiving reinforcement. To date, they are able to successfully eat 26 spoonfuls of lunch before receiving the iPad or computer whilst eating the remainder of their lunch (Figures 1 and 2). The evidence therefore suggests that the implementation of a food programme is successful in increasing the consumption of food for this individual.

Figure 1. Skill area log: Food programme

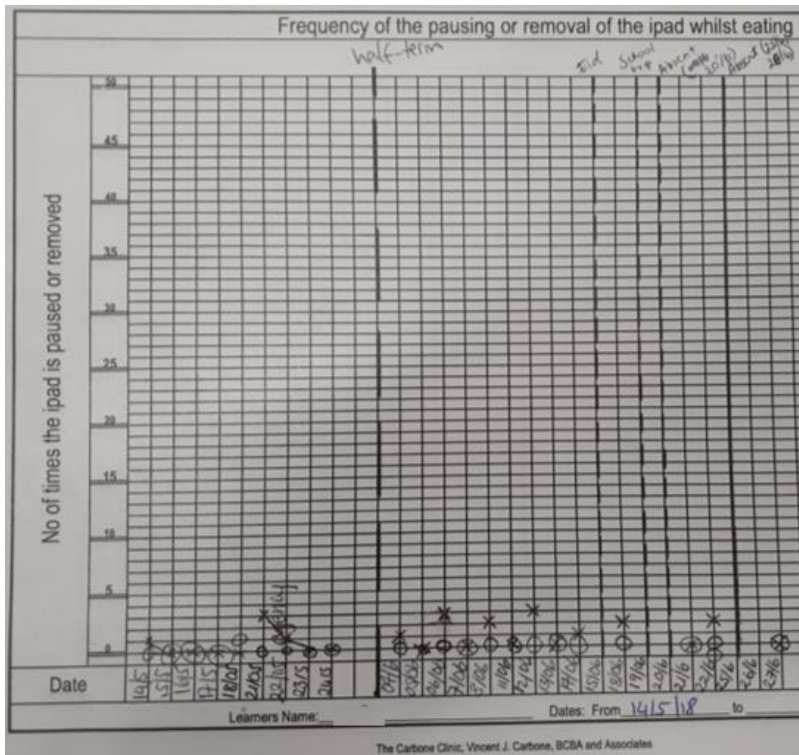
Target skill	Date introduced	Date mastered
1	10.1.18	Known
2	16.1.18	25.1.18
3	26.1.18	30.1.18
4	31.1.18	7.2.18
5	8.2.18	19.2.18
6	20.2.18	26.2.18
7	27.2.18	6.3.18
8	7.3.18	13.3.18
9	14.3.18	15.3.18
10	16.3.18	20.3.18
11	21.3.18	23.3.18
12	9.4.18	11.4.18
13	12.4.18	16.4.18
14	17.4.18	19.4.18
15	20.4.18	24.4.18
16	25.4.18	1.5.18
17	2.5.18	4.5.18
18	8.5.18	10.5.18
19	11.5.18	15.5.18
20	16.5.18	18.5.18
21	21.5.18	23.5.18
22	24.5.18	
23	25.5.18	5.6.18
24	6.6.18	8.6.18
25	11.6.18	13.6.18
26	14.6.18	

Figure 2. Fading of reinforcement schedule to successfully eat lunch



Going forward, we would expect to see that they will be able to eat the entire lunch and then have the iPad or computer once complete. We should however continue to regulate the food programme in order to determine its long-term effectiveness

Figure 3. Frequency of pausing or the removal of the iPad while eating



and should the pupil bring in new lunches which have not yet been worked on, the programme will need to again be stripped back to the first step.

The next steps in the food programme will aim to target the amount of time the pupil takes to consume their lunch. We are already collecting data on this (Figure 3) whereby we will pause or remove the iPad/computer when they hold food in their mouth for longer than 5 seconds.

Conclusions and discussion

To conclude, the evidence suggests that the implementation of a personalised food programme has been successful for this individual in helping them to go above and beyond their termly target of independently eating more than 25 spoonfuls of lunch before receiving reinforcement. We will therefore continue with them on this food programme, fading out reinforcement further and targeting a wider variety of food in future.

Appendix A

Food programme delivery

1. Pair really small pieces of each of the selection of edibles being offered as reinforcement for eating target food. Deliver only 1 piece of each for free.
2. Line up in a semi-circle each of the edibles being offered as reinforcement with the amount that will be delivered.
3. Have the student declare motivation for something, if they do not automatically reach for it, offer each one (starting with what you've analysed to be the most preferred) then once shows sign of motivation (can be including but not exclusive to open their mouth or reaching for it) move to next step
4. Hand the student a premade spoonful of target food. DO NOT give the demand to eat verbally or physically.
5. If the student eats the food reinforce, if you're sure of what they were motivated by deliver straight away but it's also OK for them to change their mind and choose something else from the selection out in front of them. This would be marked on the data sheet as a Y// If they do not attempt or begin to attempt to eat the target food, remove the spoon, remove the reinforcement and start again from step 2. (DO NOT deliver preferred food for free). This would be marked on the data sheets as a N.

Note: the student will sometimes try and take bits out of their food, block their hand from doing so but do not say "eat" or push their hand to their mouth.

Fading reinforcement in food programme

Each target food should be assessed, and a starting step decided by the supervisor

Mastery criteria: 4 days at 90–100%

Data recording: Trial by trial (at least 20 data points in a 30-minute slot).

Graph: by percentage

Fading steps:

1. 1 level spoonful of target food + 1 whole preferred item / 2 if small
2. 1 level spoonful of target food + ½ preferred item (1 if small) + 1 level spoonful of target food + 1 preferred item (2 if small)
3. 1 level spoonful of target food + ½ preferred item (1 if small) + 1 level spoonful of target food + ½ preferred item (2 if small)
4. 1 ½ level spoonfuls of target food + 1 whole preferred item (ensure he finishes 1 spoonful before delivering ½)
5. 2 level spoonfuls of target food + 1 whole preferred item (ensure he finishes 1 spoonful before delivering ½)
6. 2 level spoonfuls of target food + 1 whole preferred item (ensure he finishes 1 spoonful before delivering second) + ½ level spoonful of target food + 1 whole preferred item

See Supervisor to review next steps. Keep this sheet in your data file.

This should be graphed by percentage of Y steps in a session of 20+ trials for each individual target food

Please inform Supervisor if there's a downward trend on any of the food programme graphs for 2 or more days, or a plateau (no improvement) for 3 or more days

Appendix B: Food Programme

History

This student previously had issues with eating food and would not keep it down when consumed as they would hold it all in their mouth which caused them to gag. They were introduced to a food programme where they would receive crisps and sweets as reinforcement for eating their food. The student's eating improved so their food programme was faded back by removing the sweets and crisps so that they would only have the iPad as reinforcement for eating their food. As we are no longer seeing issues with this individual finishing the whole of their lunch, we are beginning to fade out the iPad so that they will eventually receive it as a terminal reinforcer once they have finished their lunch.

Delivery

1. The student's lunch should be put in a bowl 5 spoonfuls at a time from their flask (so it does not go cold).
2. Deliver level teaspoons of food one by one.
 - The tutor should put the food on the spoon and the spoon should be handed to the student so that they can feed themselves
3. They should only be given the spoon once they have finished their last mouthful.
4. DO NOT give the demand to eat verbally or physically. However, you can ask them to hold the spoon.
5. Record the start and finish time on the data sheet.
6. Deliver the iPad according to the steps below.
7. **Pause the iPad:** if they hold food in their mouth for longer than 5 seconds pause the iPad and resume when they start to chew.
8. **Remove the iPad:** if they engage in problem behaviour (bolting, noncompliance, pulling food out of their mouth screaming etc.) remove the iPad.

Tally the number of times you pause and remove the iPad on the data sheet.

Note: the student will sometimes try and take bits out of their food, block their hand from doing so but do not say "eat" or push their hand to their mouth. If they do take/spit some food out of their mouth (e.g. pepper, mince) then remove the iPad and represent that piece/another piece of the same food on its own on the spoon. As soon as they put it in their mouth deliver the iPad immediately.

Fading reinforcement in food programme

Mastery criteria: 3 days over 90% then you can move onto the next step

The iPad should be visible at all times so that the student knows what they are working for.

Fading steps:

1. Deliver 1 level spoonful of food. Once pupil has finished that mouthful, they can have the iPad for the remainder of lunch (dependent on above contingencies)
2. Pupil is expected to eat 2 spoonfuls of food before delivering the iPad for the remainder of their lunch (dependent on the above contingencies).
3. Pupil is expected to eat 3 spoonfuls of food before delivering the iPad for the remainder of their lunch (dependent on the above contingencies).
4. Pupil is expected to eat 4 spoonfuls of food before delivering the iPad for the remainder of their lunch (dependent on the above contingencies).
5. Pupil is expected to eat 5 spoonfuls of food before delivering the iPad for the remainder of their lunch (dependent on the above contingencies).
6. Pupil is expected to eat 6 spoonfuls of food before delivering the iPad for the remainder of their lunch (dependent on the above contingencies).
7. Pupil is expected to eat 7 spoonfuls of food before delivering the iPad for the remainder of their lunch (dependent on the above contingencies).
8. Pupil is expected to eat 8 spoonfuls of food before delivering the iPad for the remainder of their lunch (dependent on the above contingencies).
9. Pupil is expected to eat 9 spoonfuls of food before delivering the iPad for the remainder of their lunch (dependent on the above contingencies).
10. Pupil is expected to eat 10 spoonfuls of food before delivering the iPad for the remainder of their lunch (dependent on the above contingencies).

* Instructor to see running of food programme once step 10 is mastered.*