

Video modelling to scan for traffic while crossing

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Executive summary

This case study is about how video modelling helped a student in crossing the road independently following the chain provided for this task. It has been observed that they were not properly looking left and right before starting to cross the road and it affected their independence when crossing the road.

The videos showed what to look for while crossing the road and this helped them to start to properly scan for cars and acquire more confidence to start crossing the road by themselves.

Introduction

The student in this study is 14 years old, an advanced learner although prompts dependent. Generally, they do not have problem behaviour. However, sometimes they might laugh out of context.

They are able to cross the road using a pelican crossing, and the next step was to work on “Looks both ways to cross the street and scans for traffic”.

Having acquired all the pre-requisites for mastering the skill, the student started to follow a stimulus response chain with the SD and the consequence listed for each response. The prompt level for each response faded from “Full prompt” to “Independent” very quickly. However, the target steps “look left” and “look right” were not performed appropriately which affected the following steps.

While crossing the road, they were turning their head right and left, but their eyes were looking at the Tutor. When it was time to cross, they were looking at the Tutor to be sure it was safe to start crossing the road. They were imitating all Tutor gestures and answering intraverbal stimuli, but not generalising this in the community.

To explain to this individual what we meant

by “scanning for cars” it was necessary to introduce a different visual support.

Methodology

Two modelling videos have been recorded using first-person perspective to show crossing the road in a slow and deliberate manner. Only one video shows the correct procedure.

The student used to go out in the community with their Tutor in the morning (baseline) at least 3 times a week. Once back in the classroom, they would watch the modelling videos with their Tutor focusing on his flat line targets: SD “looks left” and consequence “looks right”; SD “looks right” and consequence “says there is a/no car”.

The video was showing them all the possible scenarios with or without a car coming up the street. The Tutor provided intraverbal stimuli to run the activity and, thanks to the support, the student could see the appropriate response of each consequence through someone else’s eyes.

Sometimes, the iPad was moved accordingly to each side to make the activity more realistic.

Results

The student accessed this new support early in the winter term and the activity was tracked on the designed chain for this skill (Figure 1).

At first there was slow progress; they seemed to wait for prompts before answering intraverbal questions used in teaching sessions. We ran the activity on the street with a really low traffic level to make the approach on crossing the street at an easy level. During the month of February, they were independent 44% of the time. There were still not looking properly, and they were not sure when it was safe to cross. When asked, “Can we cross?”, most of the time they were waiting for a prompt for answering or they were repeating what the Tutor had asked. When it was time to cross the road, they would wait for any movements from their Tutor towards the street to be sure they could really cross the road safely.

In March the student’s independence went up from 66% to 100%. Progressively, they started to look both ways and cross by themselves. These two steps were previously the most difficult, as they relied on the Tutor’s prompts and were uncertain on when to cross the road.

At the end of the month, they achieved this skill. The prompts were faded accordingly to their progress and considering the dynamic risk assessment of crossing the road. They started

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Figure 1. Stimulus Response Data Sheets demonstrating progress against skill “Looks both ways to cross street and scans for traffic while crossing”

Stimulus Response Data Sheet

Learner: _____ Skill: Looks both ways to cross street and scans for traffic while crossing
 Instructions: Create a stimulus response chain with the SD and consequence listed for each response.

Record _____ Backward Chain _____ Forward Chain _____ Total Task _____
 The prompt level for each response (total task), or current target step (backward chain or forward chain). Date 10/10/19

SD / Consequence	Response	10/4/19	15/10	16/10	21/10	1/11	04/11	15/11	21/11	22/11	23/11	28/11	30/11	7/12
S ⁰ C stop at road	Stops at road	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ¹ stop at road C steps closer to the kerb	Steps closer to the kerb	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ² steps closer to the kerb C looks left	Looks left	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ³ looks left C looks right	Looks right	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁴ looks right C says 'there is a/c car'	Says 'there is a/c car'	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁵ says 'there is a/c car' C waits for road to be clear	Waits for road to be clear	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁶ road is clear C crosses road	Walks across road	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁷ crossing the road C	Beginning to cross the road quickly	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁸ road is clear C	Looks left and right while cross	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁹ road is clear C	Walks to the other side of the road	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
Number of steps in chain: 10	Percentage of independent responses:	100%	90%	70%	50%	30%	30%	40%	70%	80%	80%	80%	80%	50%

SD / Consequence	Response	12/2	12/2	17/2	17/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
S ⁰ C stop at road	Stops at road	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ¹ stop at road C steps closer to the kerb	Steps closer to the kerb	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ² steps closer to the kerb C looks left	Looks left	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ³ looks left C looks right	Looks right	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁴ looks right C says 'there is a/c car'	Says 'there is a/c car'	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁵ says 'there is a/c car' C waits for road to be clear	Waits for road to be clear	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁶ road is clear C crosses road	Begin to cross the road quickly	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁷ crossing the road C Looks left and right	Looks left and right while cross	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁸ Looks left and right C Road is crossed	Walks to the other side of the road	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
Number of steps in chain: 8	Percentage of independent responses:			47%	70%	50%	60%	78%	81%	2A	5/4	3/4	2/1	23%

* not properly looking

BLAM ↑
BLPM

SD / Consequence	Response	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3	2/3
S ⁰ C stop at road	Stops at road	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ¹ stop at road C steps closer to the kerb	Steps closer to the kerb	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ² steps closer to the kerb C looks left	Looks left	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ³ looks left C looks right	Looks right	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁴ looks right C says 'there is a/c car'	Says 'there is a/c car'	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁵ says 'there is a/c car' C waits for road to be clear	Waits for road to be clear	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁶ road is clear C crosses road	Begin to cross the road quickly	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁷ crossing the road C Looks left and right	Looks left and right while cross	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
S ⁸ Looks left and right C Road is crossed	Walks to the other side of the road	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND	FP PP IND
Number of steps in chain: 8	Percentage of independent responses:	7/8	8/8	8/8	8/8	8/8	8/8	8/8	8/8	100%	100%	100%	100%	100%

* not looking properly 8/8

88% 88% 78%

KEY: FP: full physical prompt
PP: partial physical prompt
IND: independent

looking both ways and, once independent at this step, crossed the road by themselves. The student reached 100% independence for each step in crossing the road and was able to cross the road by themselves.

Conclusions and discussion

Considering this student's progress, we can state that the video modelling helped them to master the skill "to scan for traffic while crossing the road".

The video modelling provided the visual support needed to understand the concept.

After a few weeks, they were able to cross the road after having checked that no cars were coming or, if necessary, wait for the road to be clear.

Being able to safely cross the road is an important life skill achievement. This individual is now able to access the community more independently and, in the future, it will be helpful at their work experience.

References

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