**Appendix B - Feedback Analysis**

***Feedback Analysis Experiment three***

I believed that the lack of spacing effect was interesting if participants were performing the task as instructed. I explored participants’ feedback to assess their participation.

**Figure 4‑11.***Diagram outlining how constraints were labelled in experiment three*

A diagram of a diagram

AI-generated content may be incorrect.

*Note*. The four constraints were labelled C1 to C4 and were arranged as shown in the diagram. (Left) The linear category structure, (Right) The relational category structure.

During the main task if participants’ response was incorrect, participants were required to select which constraint was forgotten that lead them to the incorrect answer, to continue. I reviewed participants’ selections to better understand how they were using the feedback. First, participants did not seem to be choosing any step in either the linear or relational constraint (see Figure 4‑11-left). If they were simply trying to get through the task they may always have clicked step one or four. This was important when considering the relevance of their selection as the first step was always relevant.

I defined a *relevant* feedback selection as a response that would make sense for the participant to choose if they looked at what they were required to do and decided where they made their error. In the linear condition, if the third constraint was false, then a participant who said they made their error as they forgot the fourth constraint made an *irrelevant* choice as if they were checking in the order that they learned the constraints they would not need to recall constraint four during that trial. In the relational category trials (see ***Figure A5*** (right)), participants followed a specific route through the flowchart, if they end after the second choice (i.e. C2 is true or C3 is False) then C4 was irrelevant. If they need to check C2 then C3 is irrelevant and vice versa. There was a much larger proportion of irrelevant feedback choices for the relational than the linear category task across all sessions (see ***Figure A6*** (right)).

**Figure 4‑12.***Experiment three: Feedback - Forgetting and Relevance*

A close-up of a graph

AI-generated content may be incorrect.

*Note*. (Left) A stacked bar chart the proportions of which constraints participants relayed that they forgot for the linear and relational categories. (Right) a stacked bar chart showing the proportions of relevant versus irrelevant forgetting

***Feedback Analysis Experiment four***

In experiment four, if incorrect, participants needed to first state whether they made an error or forgot a constraint/step. Then they make a selection as to which constraint/step was forgotten/mistaken that lead them to the incorrect answer. I added this to the feedback to gain more information about whether participants were making mistakes or forgetting.

**Figure 4‑13.***Diagram describing how constraints were labelled in experiment four*

A diagram of a flowchart

AI-generated content may be incorrect.

*Note*. The four constraints were labelled C1 to C4 and were arranged as shown in the diagram. The linear category structure (left) and the relational category structure (right).

**Figure 4***‑14.  
Experiment three: Feedback - Forgetting and Relevance*

A screenshot of a graph

AI-generated content may be incorrect.

*Note*. (Left) A stacked bar chart the proportions of which constraints participants relayed that they forgot for the linear and relational categories. (Right) a stacked bar chart showing the proportions of relevant versus irrelevant forgetting

Participants in the linear condition were choosing relevant feedback options most of the time. Participants frequently chose irrelevant feedback options.

and this provided another metric to analyse participants’ participation in the task. By recording participants’ indication of where they forgot or made an error it is possible to see whether that choice is relevant to the specific trial. For example, if they said they forgot the last step of the linear category procedure, but they did not need to recall it to succeed in that trial that would be an irrelevant choice.