

Learning Basic Set Operations: Union and Intersection

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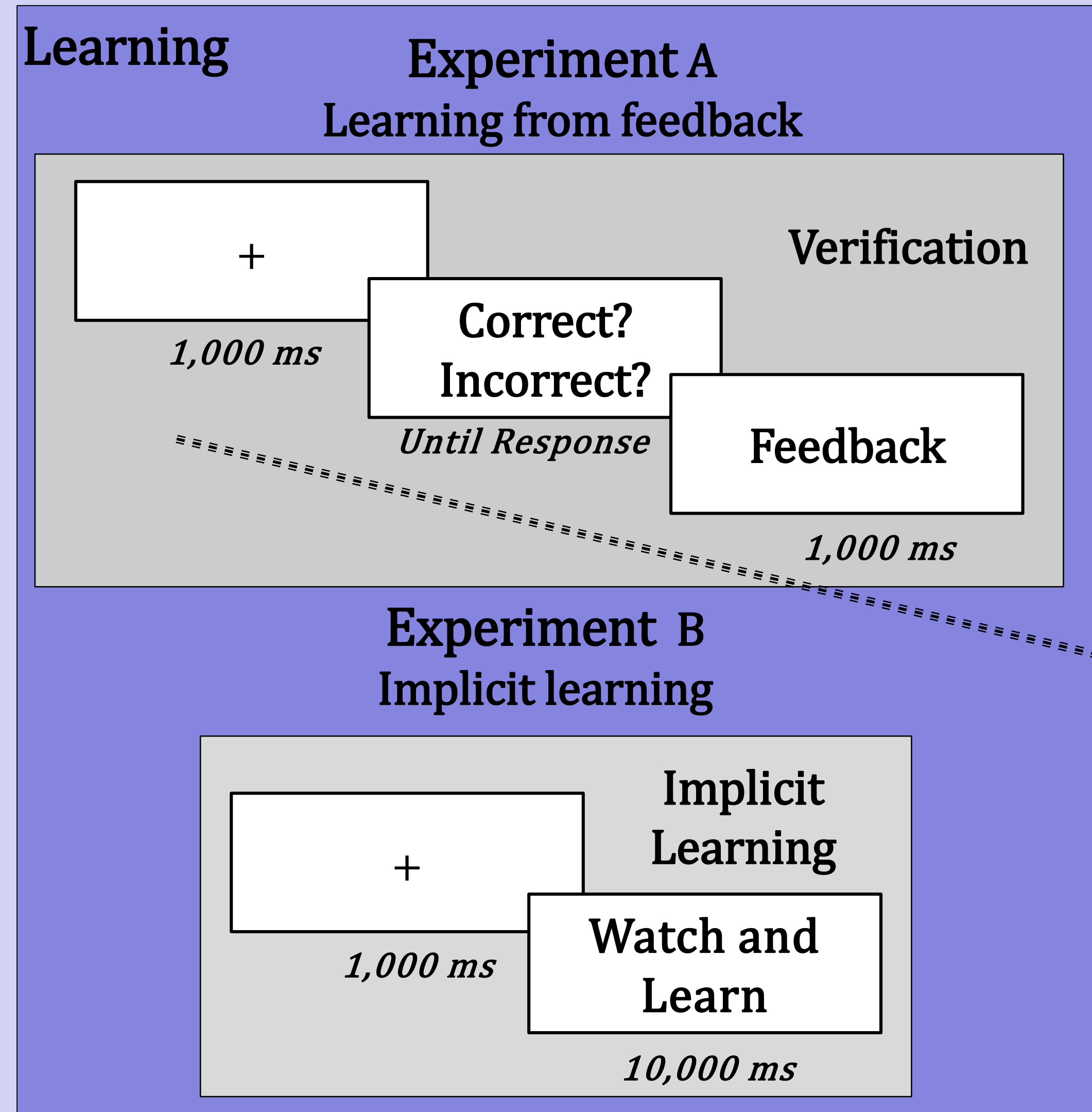
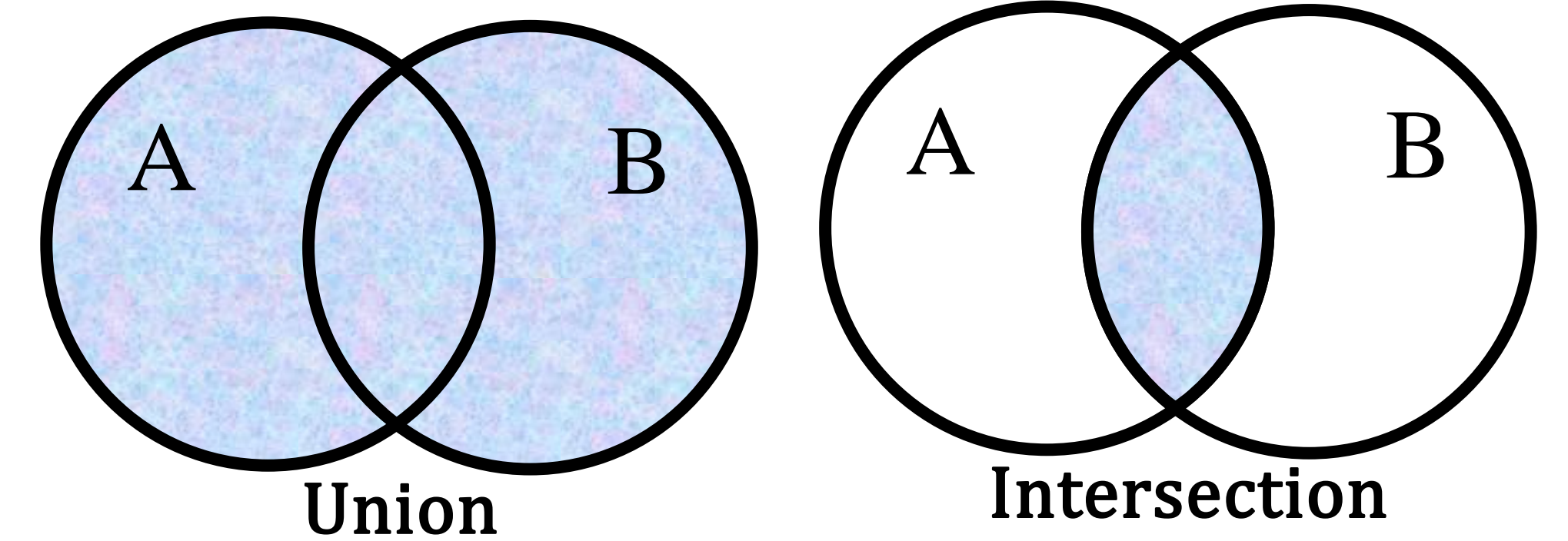
Introduction

Previous studies on understanding class union and intersection indicate that intersection is well understood even by young children. In contrast, union is a much harder concept. In these studies, a verbal description of the operations, using the logical connectives "and" and "or", was used.

The current study

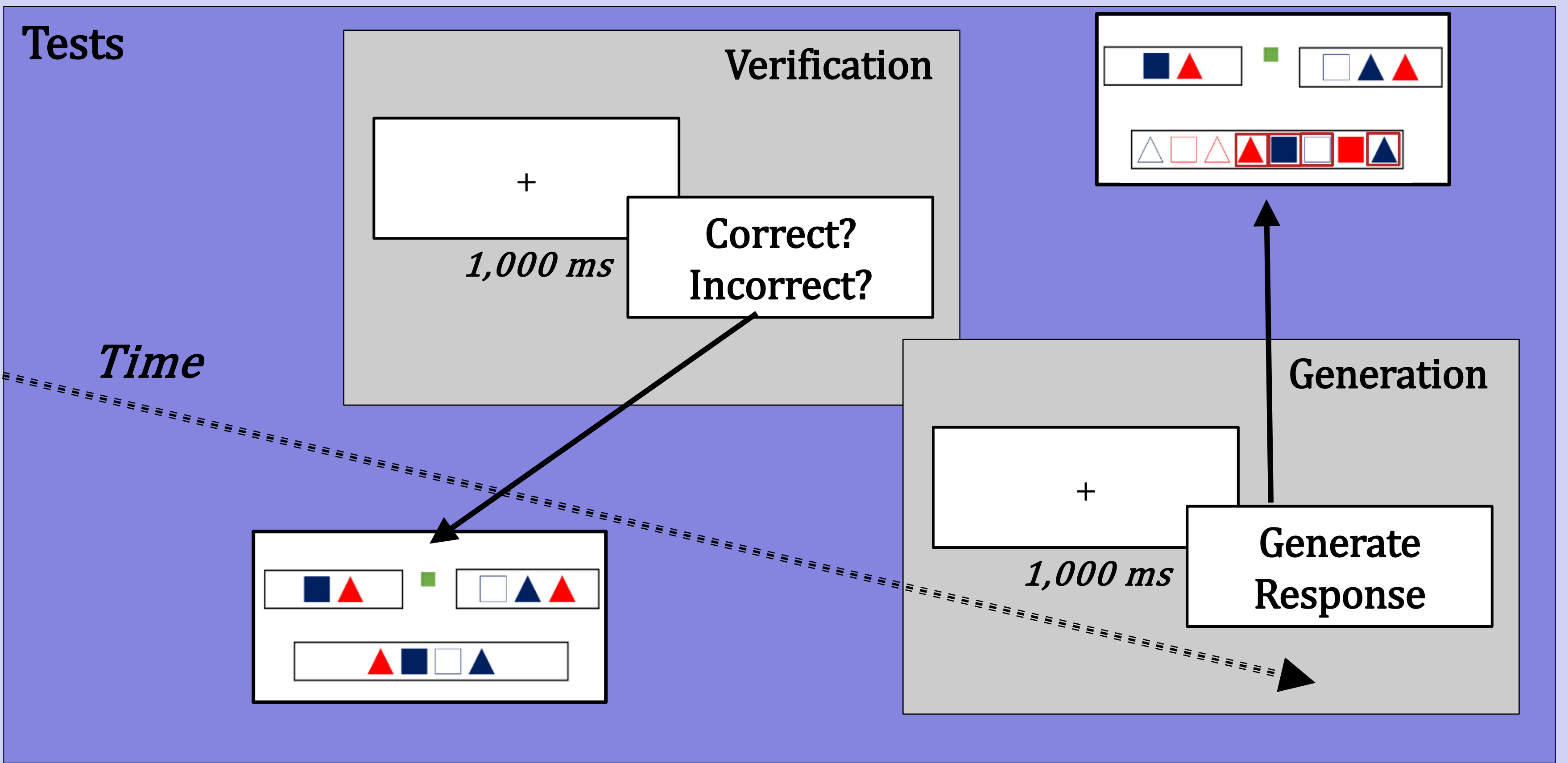
A new tool for assessing the learning and understanding of the union and intersection operations without using the (perhaps) confusing connectives "and" and "or" was developed.

Two learning methods were tested: learning from feedback and implicit learning.

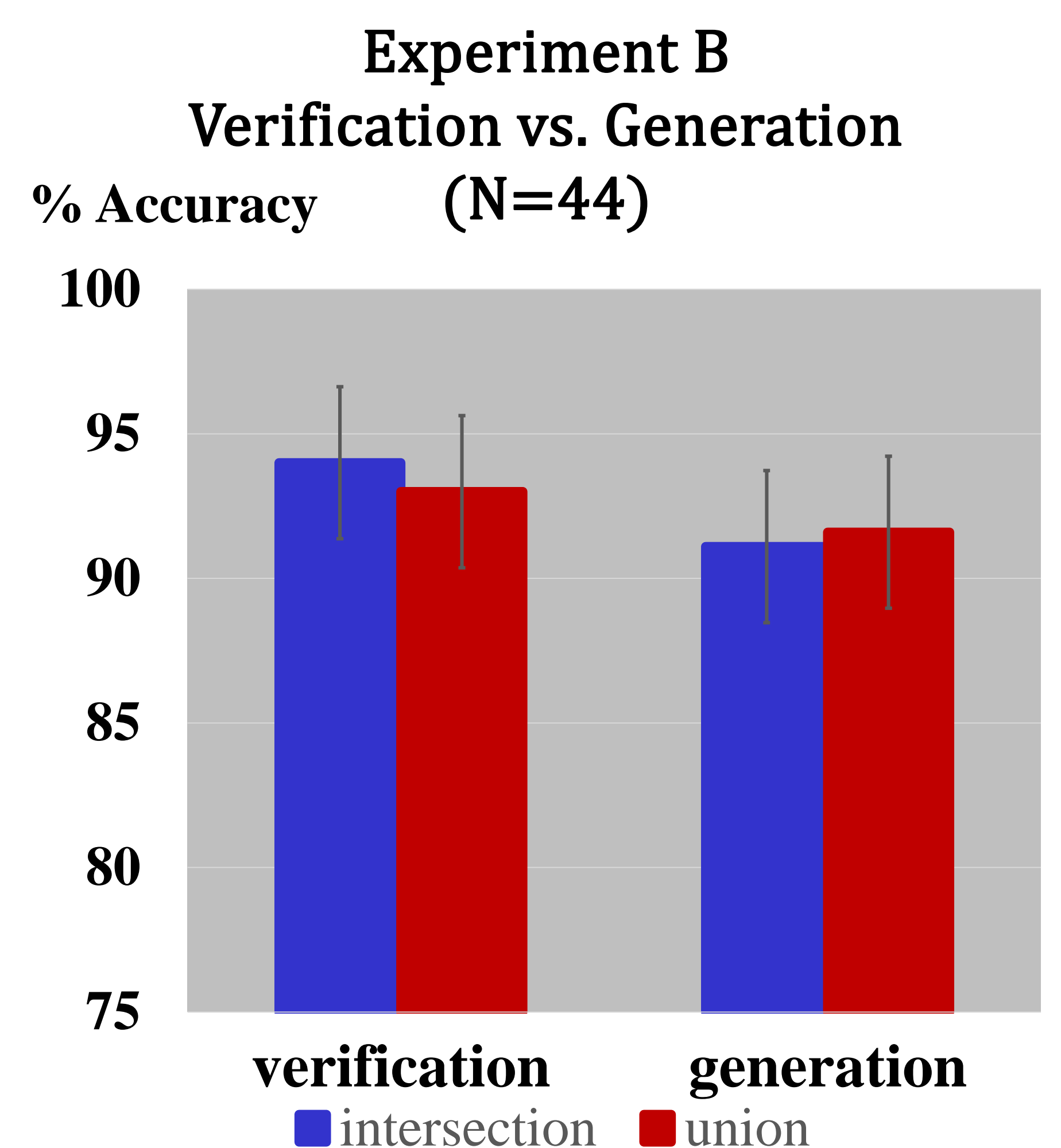
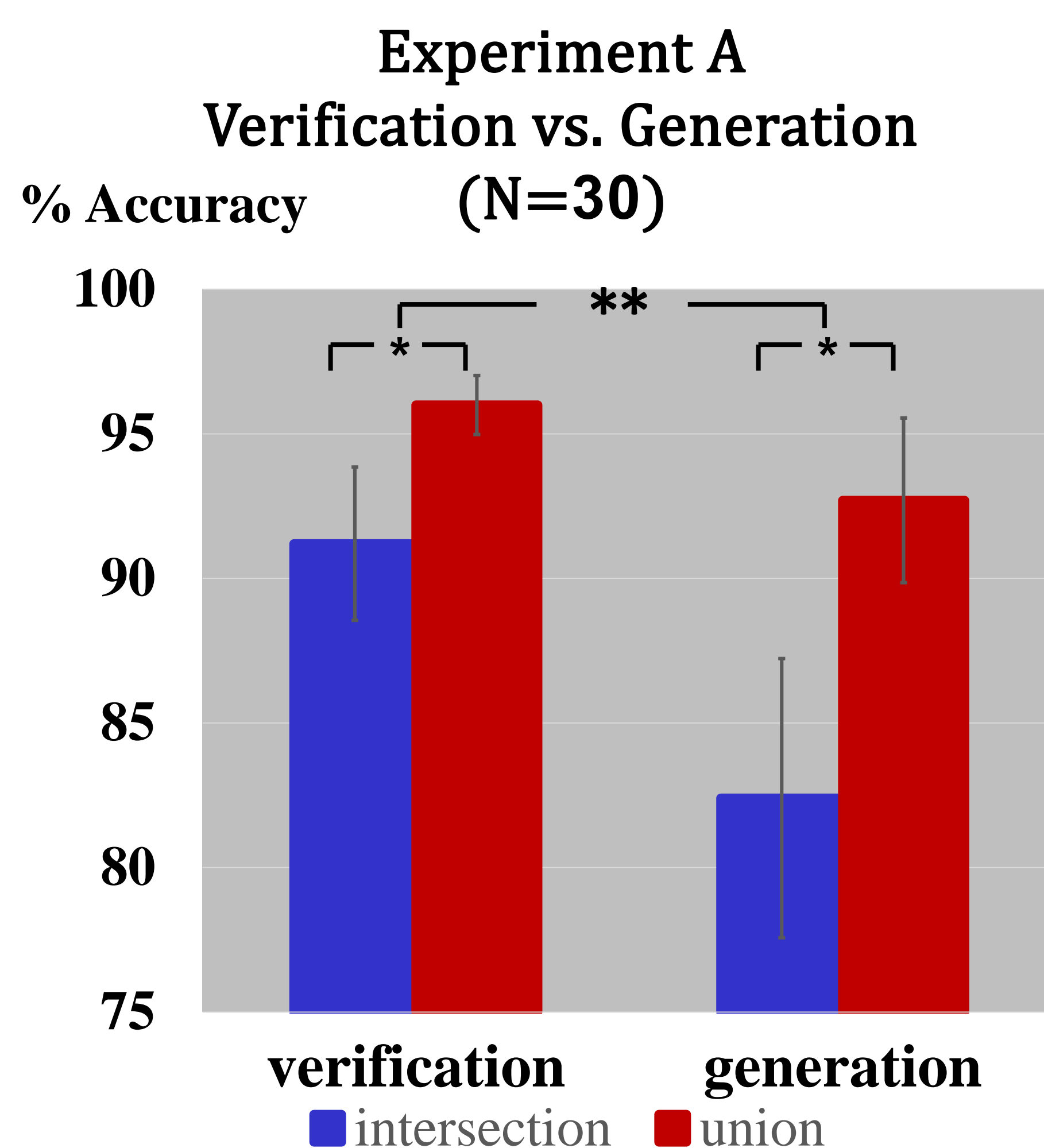
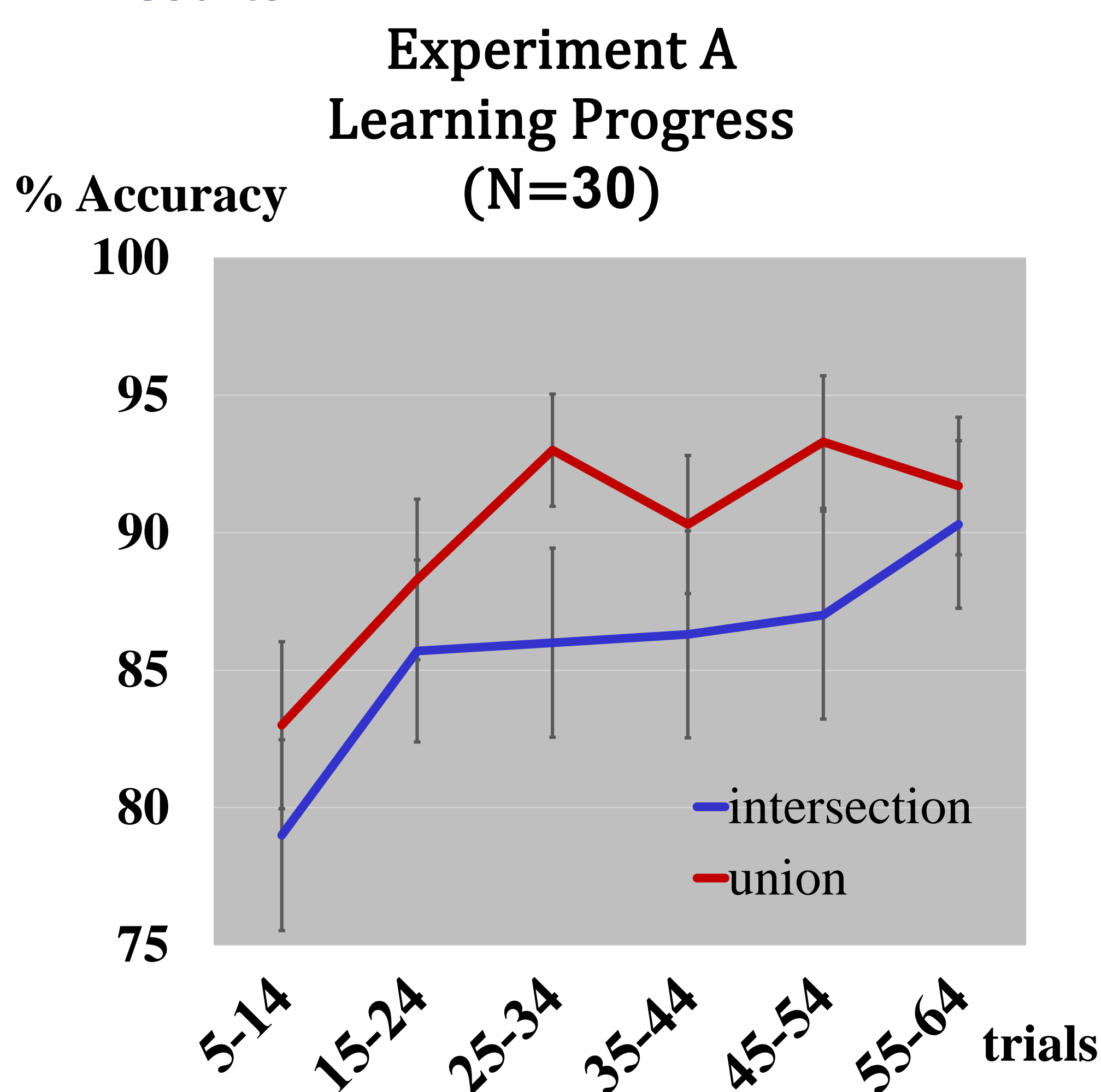


Method

Tests



Results



Discussion

- Both methods resulted in learning outcomes.
 - Intersection was better learned using implicit learning.
- This may suggest feedback is not mandatory for learning the union and intersection operations and that incorrect examples (used in Experiment A) may even impair learning.

What next?

Developmental study - Learning and understanding union and intersection in different age groups.

Read it online:



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