

# SMALL SUSTAINED INTERVENTIONS SHIFTS CONSERVATION PARADIGMS IN LIFE SCIENCE STUDENTS

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## INTRODUCTION

Biodiversity Conservation concepts significantly evolved over the past decade to recognise dynamic, human-integrated management of novel habitats<sup>1</sup> and focus on adaptive capacity for whole-system functional resilience<sup>2</sup>. Student discourse, if at all present, remains entrenched in static equilibrium concepts and focused on single-species protection. This study adopts Small Teaching<sup>3</sup> approaches to Aquatic Vertebrate Diversity LSM4257 to encourage students to a) include Biodiversity Conservation into discourse frameworks, and b) adopt integrative approaches to Biodiversity Conservation.

## METHOD

Small sustained interventions were made for at least 15% of total class time every week. Implementation included active discussions on current biodiversity conservation issues in the form of data analyses, field trips and guest lectures. Changes in the approaches adopted by students (n=31) were measured using initial (pre-course) and final mind maps (post-course).

## IMPLEMENTATION: SMALL SUSTAINED INTERVENTIONS

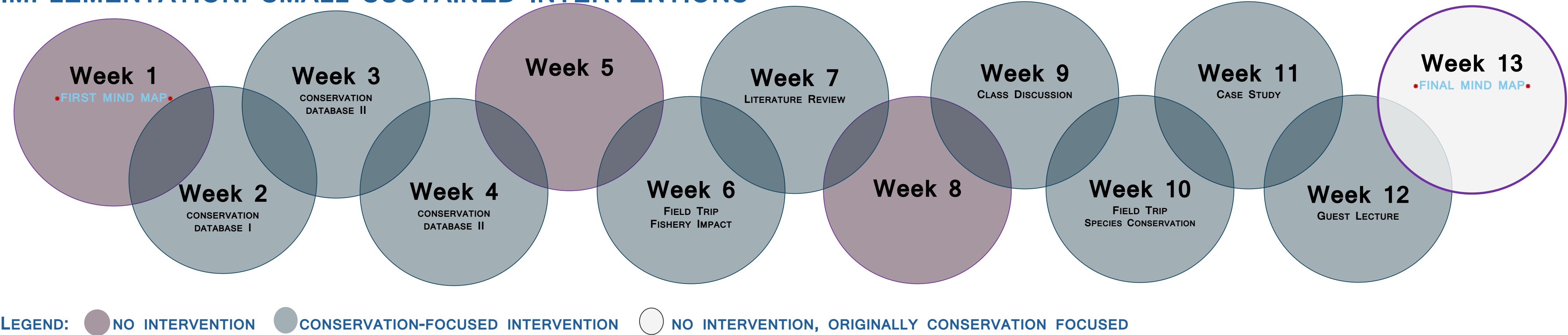


Figure 1. Classroom sessions showing weeks when interventions were implemented, and specific conservation-focused activity that was incorporated

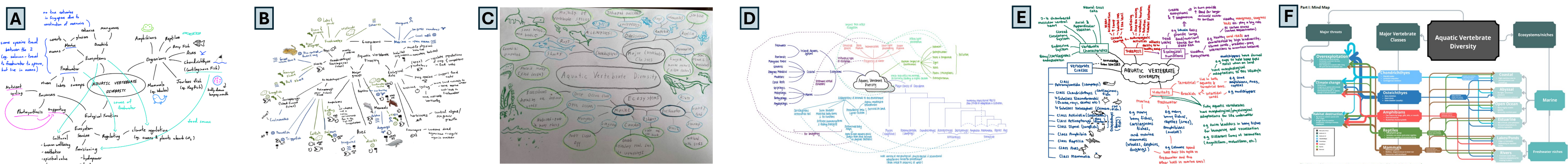


Figure 2. Examples of initial (A, B, C) and final (D, E, F) mind maps submitted for the course

## RESULTS & CONCLUSION

### SHIFTS IN STUDENT DISCOURSE

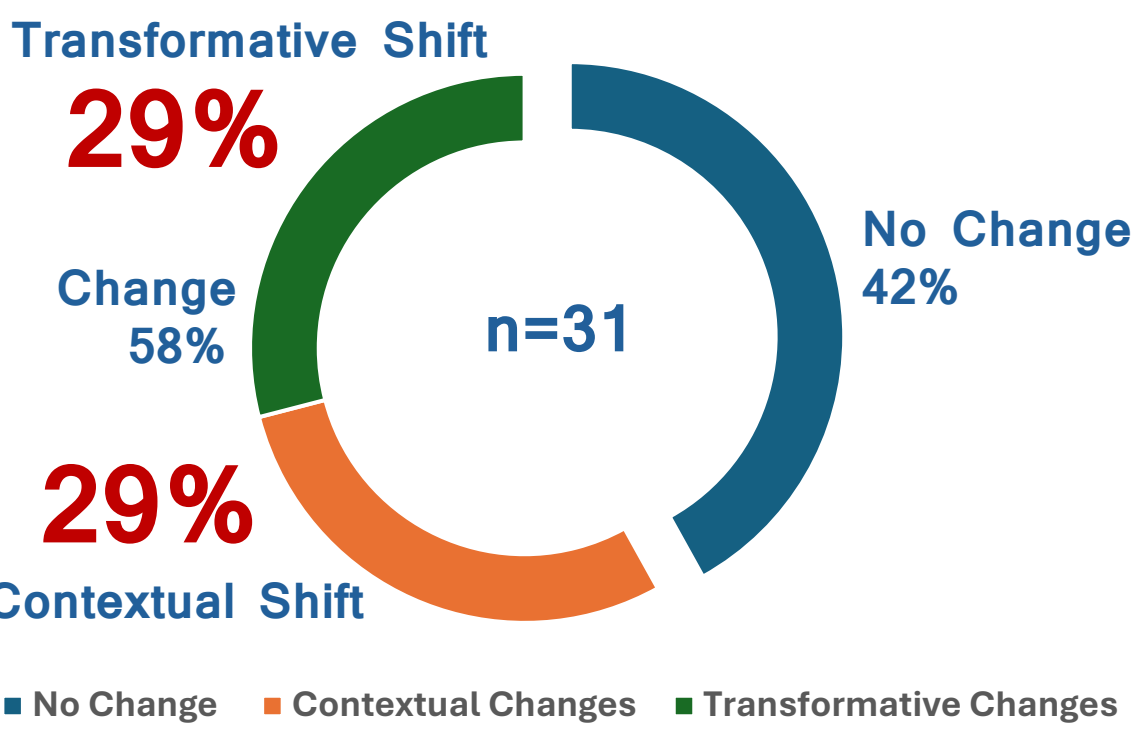


Figure 3: Changes Between Initial & Final Mind Maps

**58%** of students (18 out of 31) **shifted** how they represented conservation-focus issues in the final mind map. The changes were **transformative for 29%** of these students

### COGNITIVE PROGRESSION

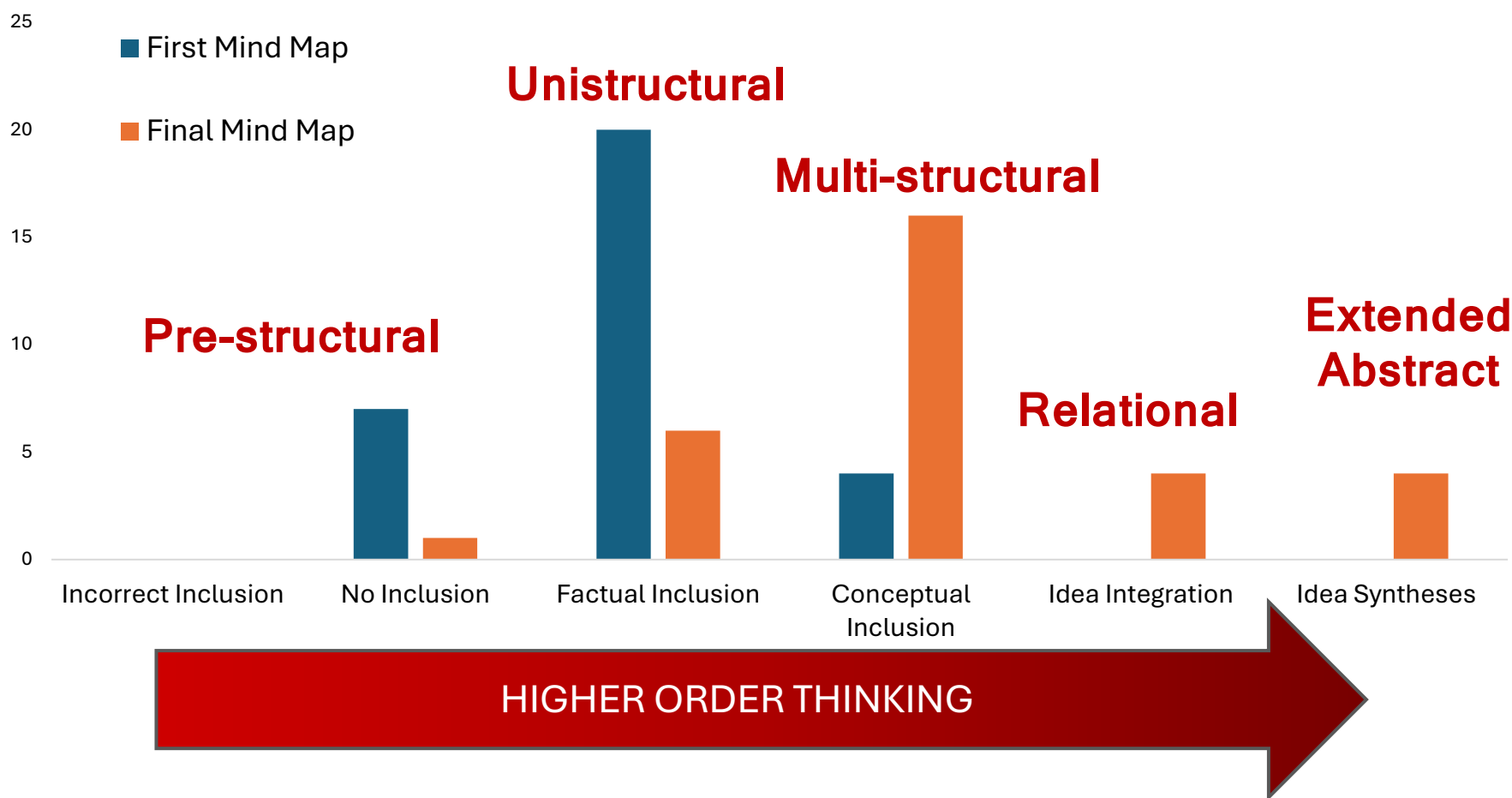


Figure 4: Change Type Between Initial & Final Mind Maps

Application complexity increased in final mind maps, showing a **clear trend toward HIGHER ORDER THINKING**

### PREDICTORS OF DEEPER LEARNING

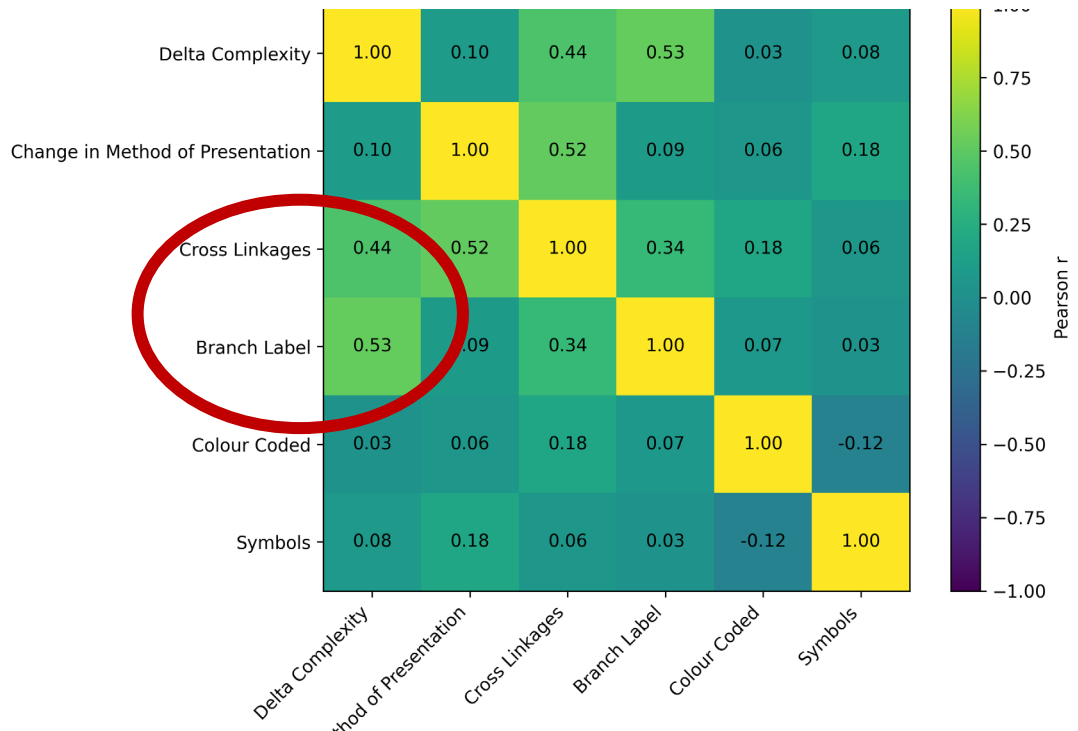


Figure 5. Pearson's Correlation Heatmap

**Discourse quality** and deeper learning are correlated with **cross linkages** and **connector labels** ( $r=0.44$ ,  $r=0.53$  respectively) in final mind maps