

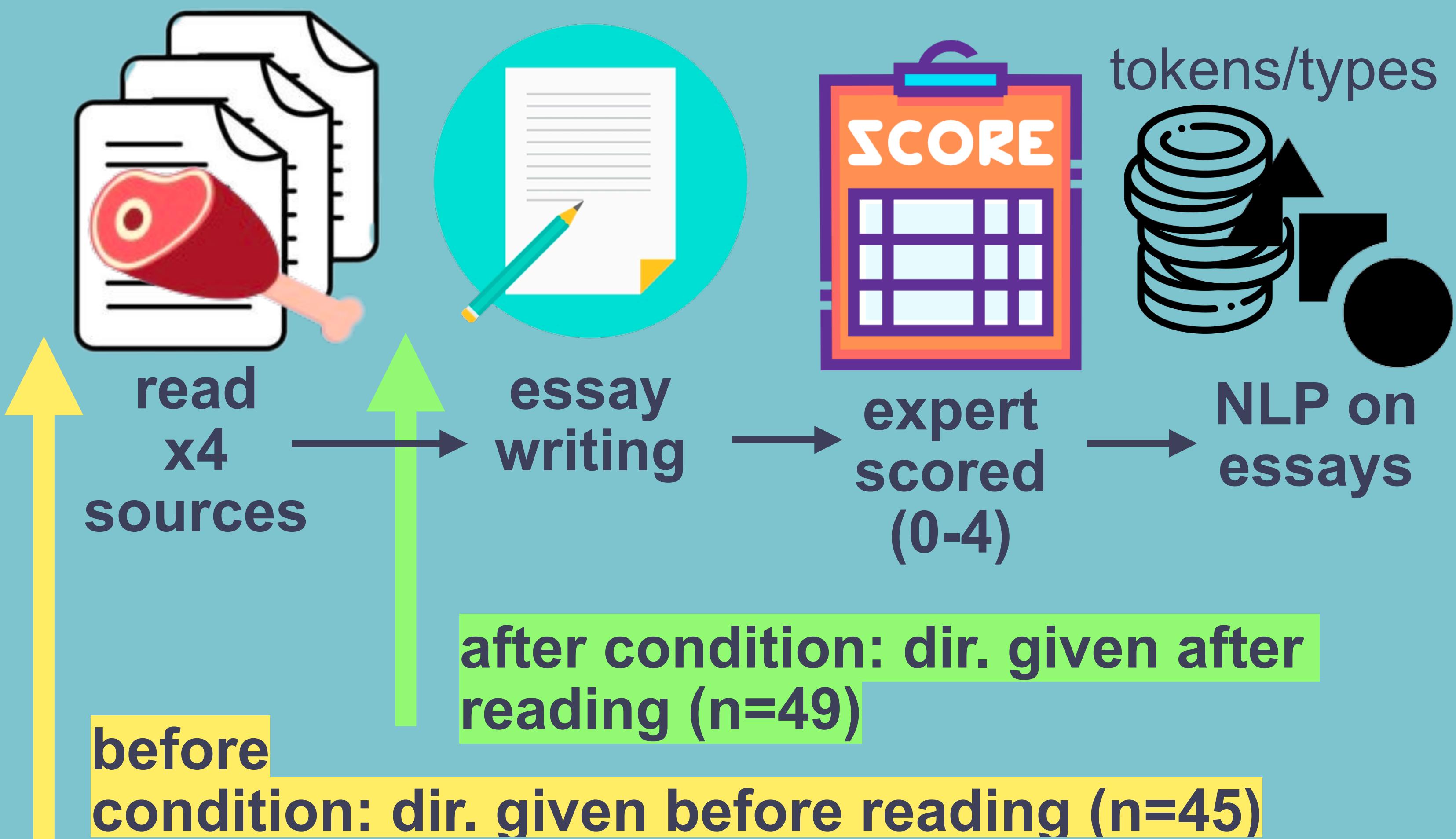
# Triangulating Data Sources in Multiple Document Comprehension Tasks

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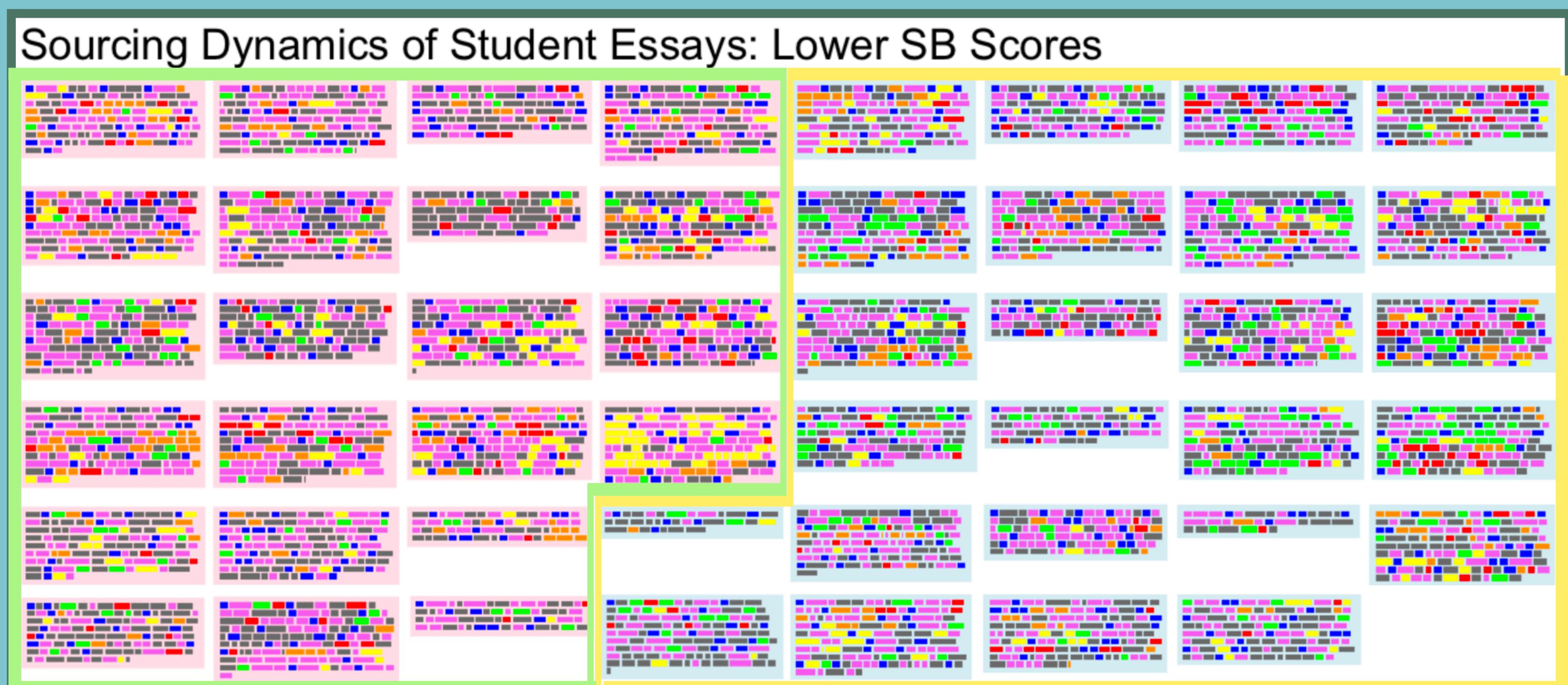
## Methods

Participants (n=94) from a 4-year institution completed a multiple document reading/writing task for course credit



## Qualitative Results

### 3. Qualitative visualizations of students' source integration



Sources 1-4 represent unique tokens



Exploratory qualitative results shows the patterns of source overlap indices for both **lower** (0-2; n=47) & **higher** (>2; n=47) source integration scores by condition (**before=yellow**; **after=green**)

### Sourcing Dynamics of Student Essays: Higher SB Scores



## Background

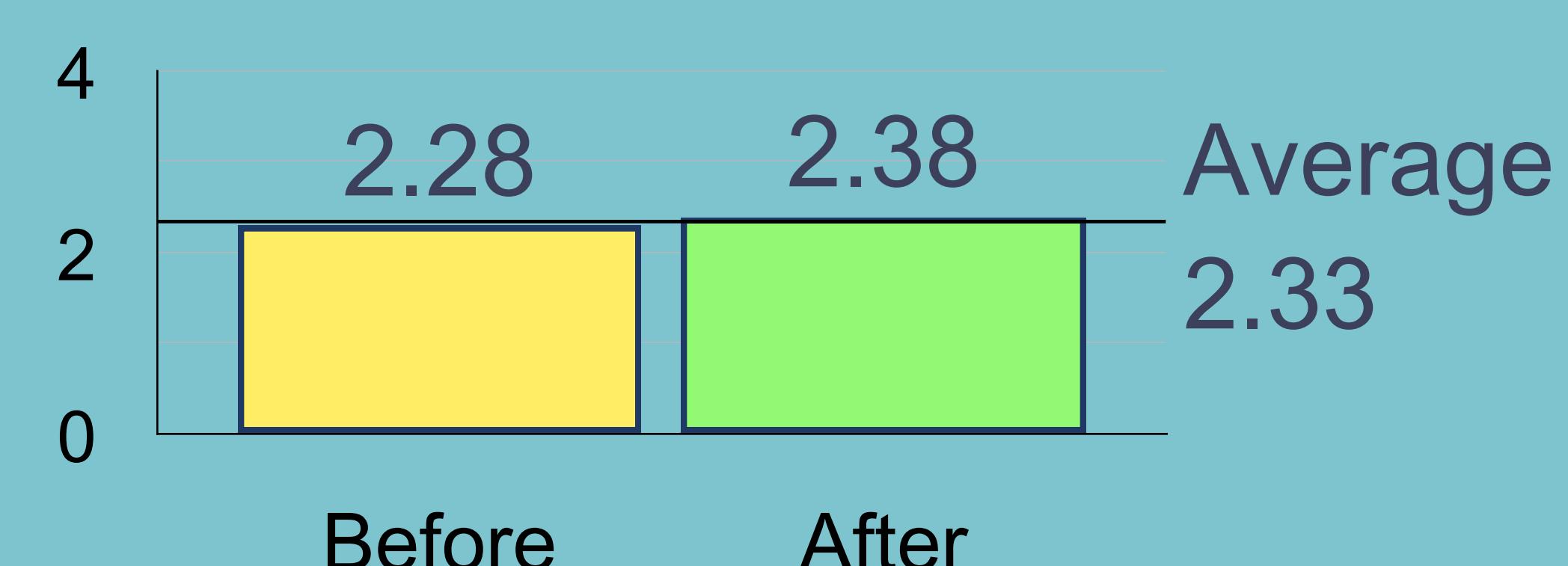
- source-based writing or integration tasks rely on lower-level and higher-level literacy skills related to both comprehension and writing processes (List & Alexander, 2018; Spivey & King, 1989)
- context of reading (e.g., when instructions are given) known to influence comprehension and holistic writing scores but not analyzed in relation to source integration scores nor how students use these sources (Vandermeulen et al., 2023)

## Research Questions:

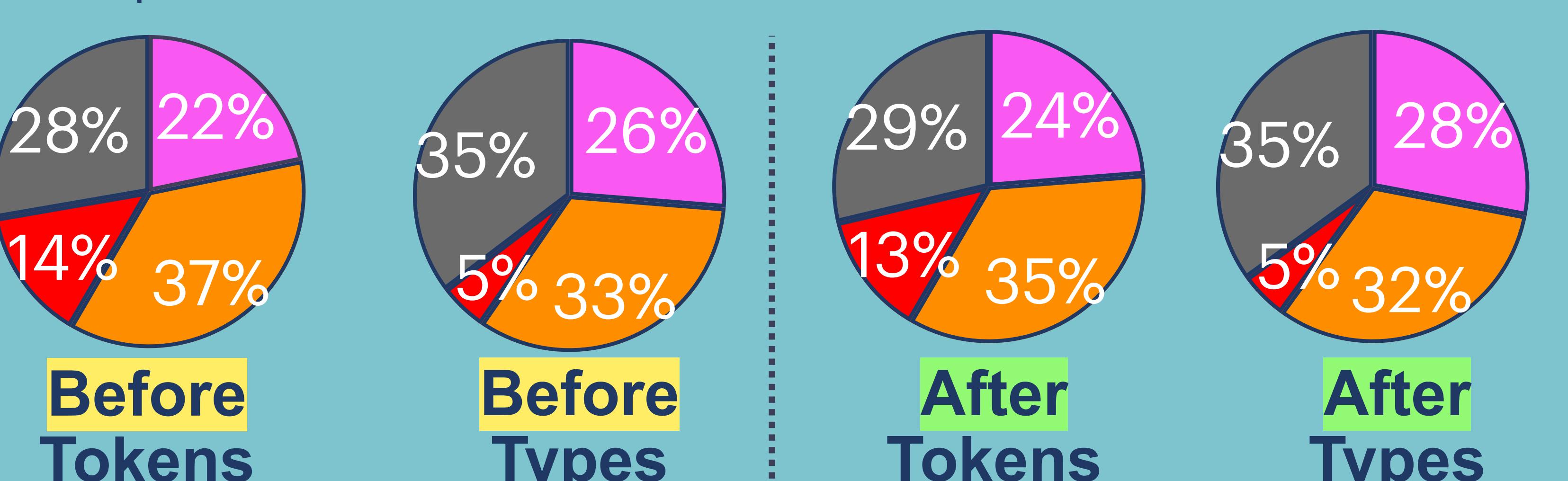
- Do source integration scores differ by condition (when instructions are given; before vs. after reading)?
- Do source overlap (NLP) indices differ by condition?
- How are source overlap (NLP) indices related to source integration scores?

## Quantitative Results

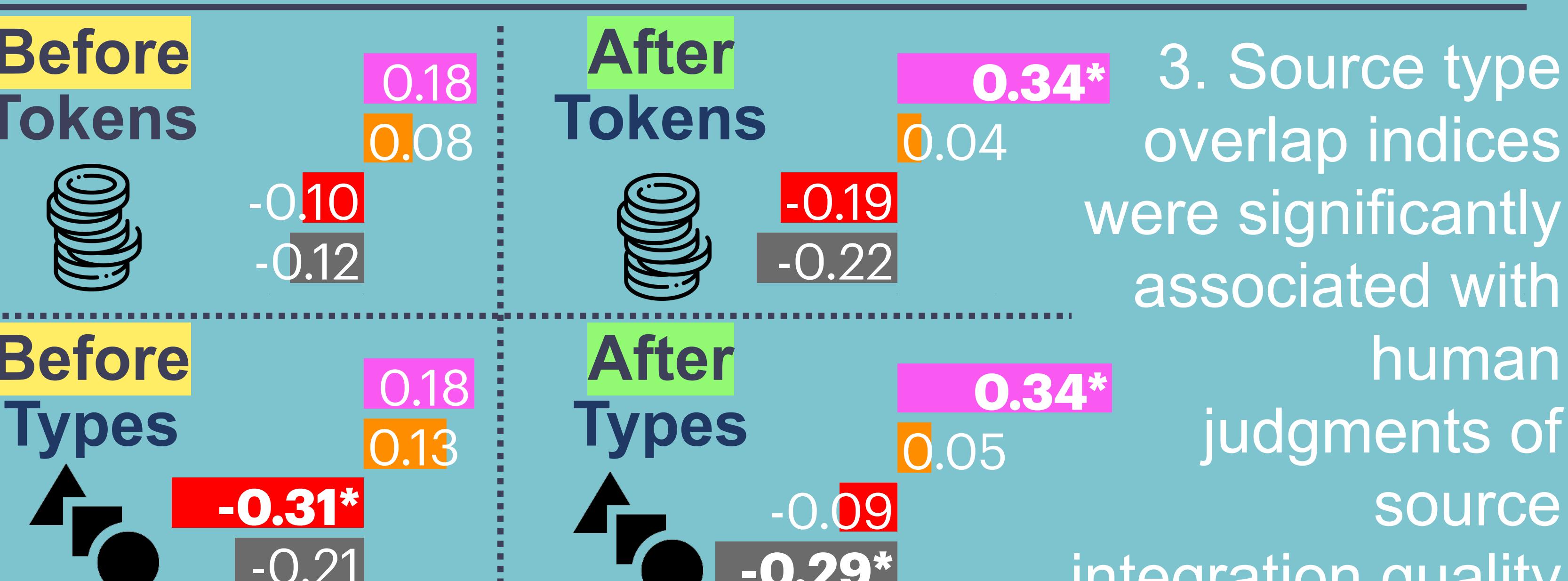
- No differences in source integration scores across conditions;  $F(1, 92)=1.10, p=0.297$



- unique sources      2-3 sources      all sources      elaborations



- Source overlap (NLP) indices did not differ by condition



3. Source type overlap indices were significantly associated with human judgments of source integration quality

## Discussion

- current study examines what aids "good" source integration and provides the first step in modeling source integration at both the quantitative and qualitative levels
- qualitative visualizations provide opportunity for in-depth look into how one integrates sources into their writing
- source overlap results indicate that using more words from unique sources tends to produce higher-scoring source integration scores than those that use words common to all sources or elaboration (non-source words)
- limitation: elaborations not assessed for relevancy (semantic similarity to source words)
- qualitative results suggest future work should assess the dynamic/temporal use of source overlap indices
- implications for providing detailed formative source integration feedback during writing