

# Facilitating constructive online discussion using graphical representation

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# Online Discussion

- Benefits
  - Common & Easy Instructional strategy
  - Collaborative Construction of Knowledge
  - Enhance divergent thinking
- Limits
  - Fail to elaborate thoughts
  - Share information without knowledge construction
  - Do not learn domain knowledge



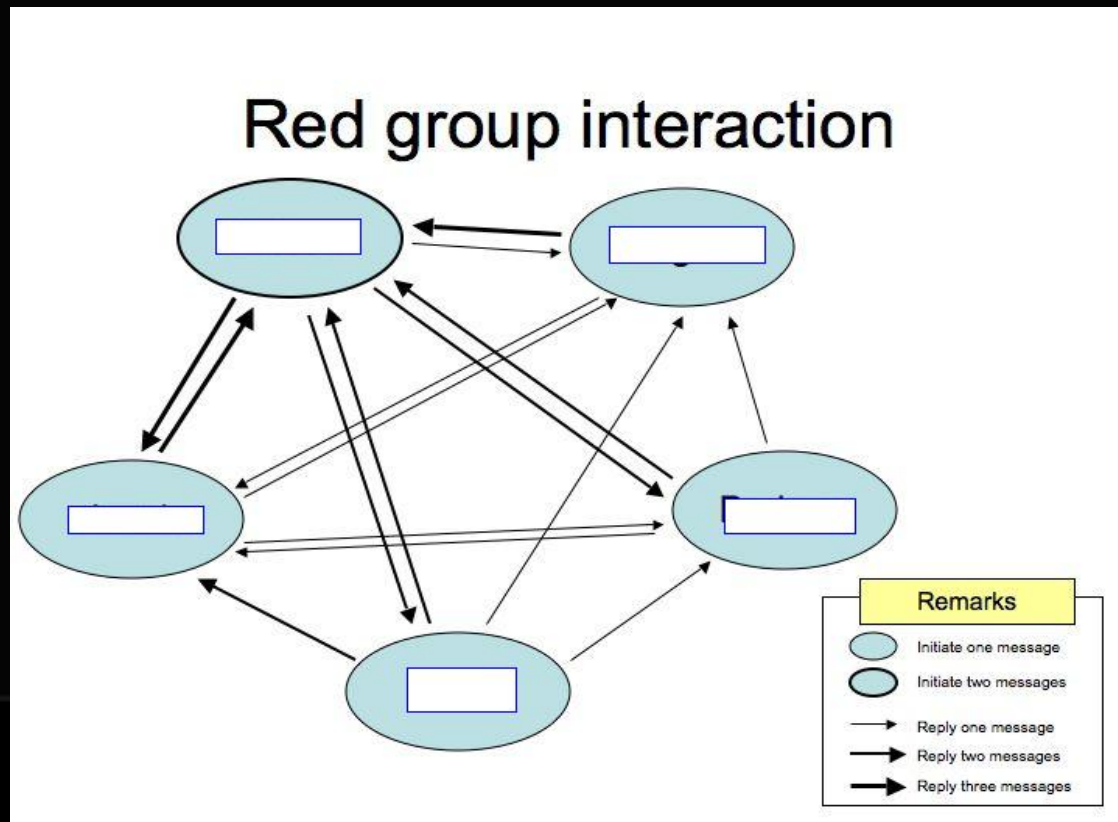
# Reasons of ineffective discussion

- High cognitive demanding tasks vs. Insufficient skill
- Poor mutual engagement
- Failure of discussion coordination



# Scaffolding Online Discussion

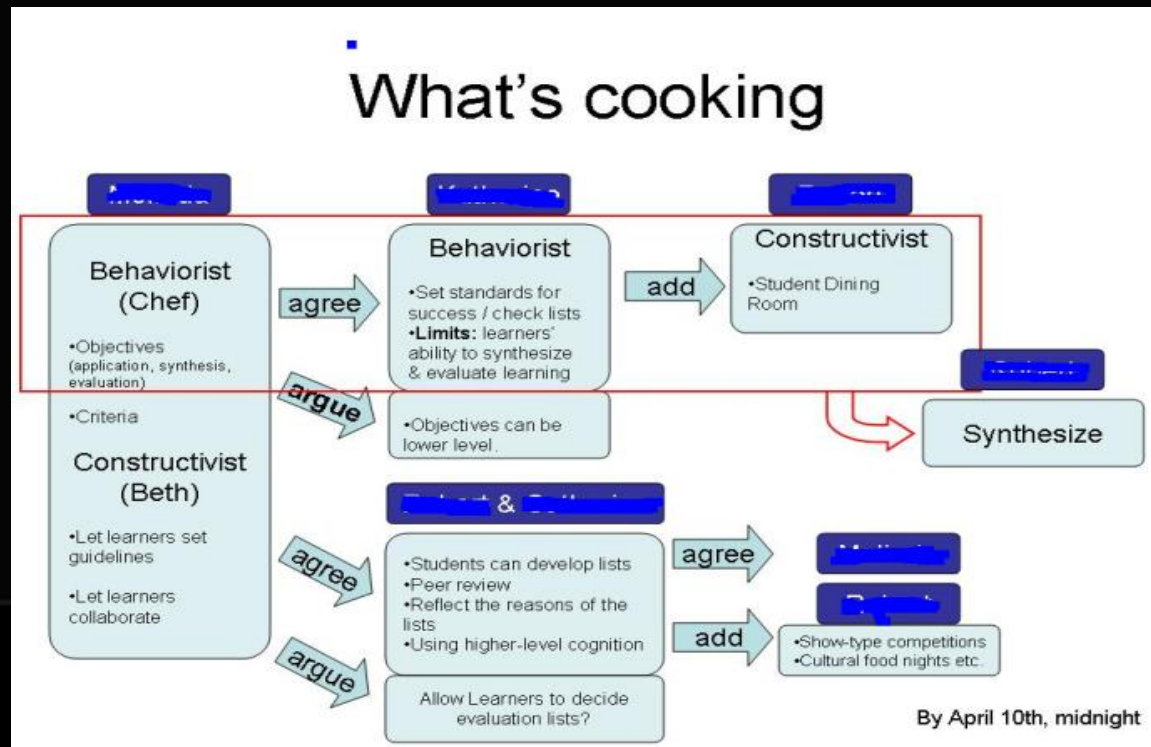
- Boost interactions among peers
  - NO interaction, NO learning!





# Scaffolding Online Discussion

- Organize discussion
  - Visual representation of arguments
  - Represent the Structure of discussion





# Participants & Design

- 18 Grads from *Instructional Systems Design*
- *Groups*
  - *General Comment without Diagram (6)*
  - *Interaction Comment & Interaction Diagram (6)*
  - *Topic Comment & Topic Diagram (6)*



# Comment Type

- General Comment: Explain domain contents from instructor's perspective.
- Interaction Comment: Encourage replies to peers' posts.
- Topic Comment: Summarize discussion and encourage elaboration.



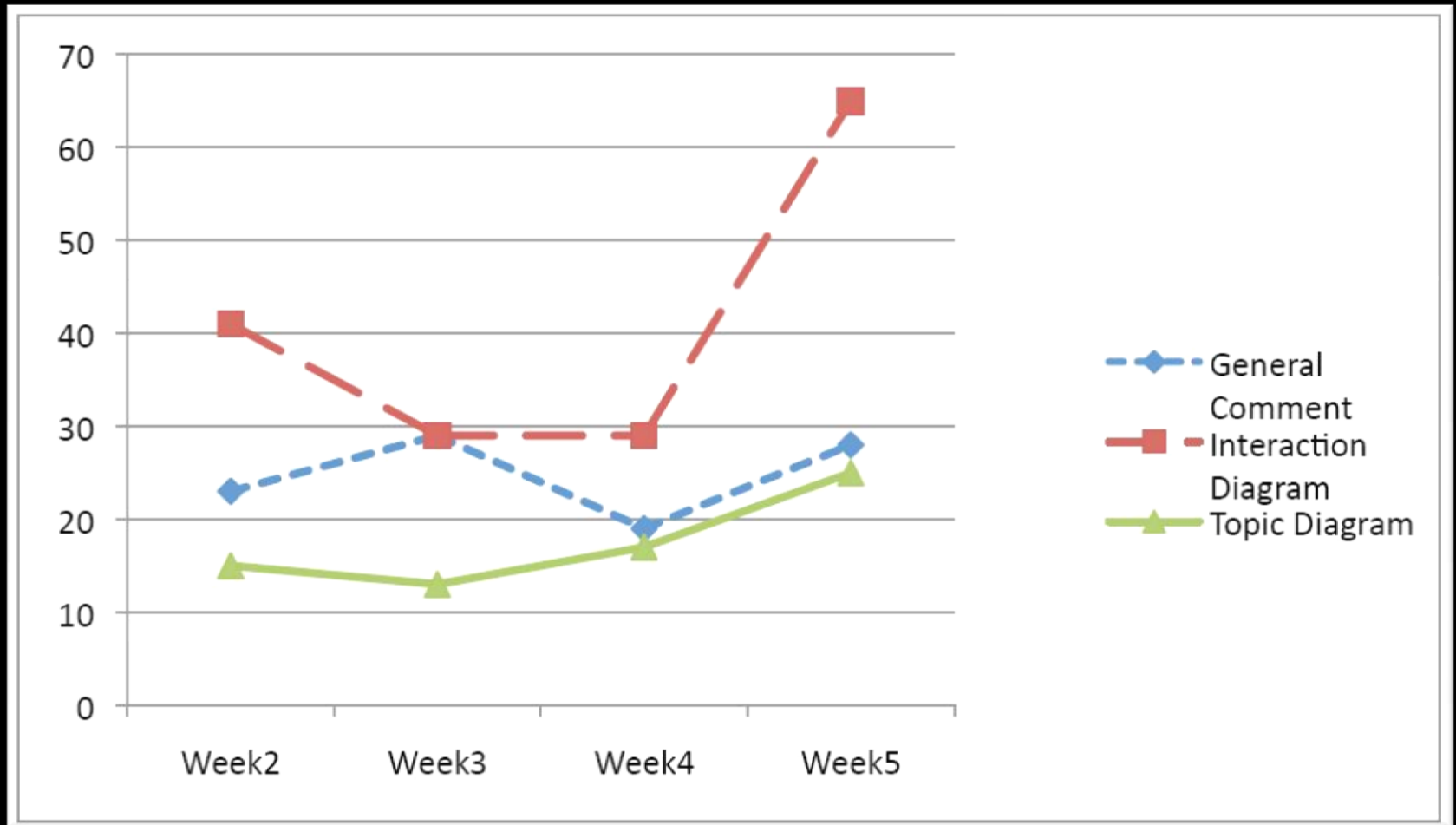
# Research Question

- Do visual supports and comment types affect **students' interaction** in online discussion?
- Do visual supports and comment types affect the **quality of online discussion**?





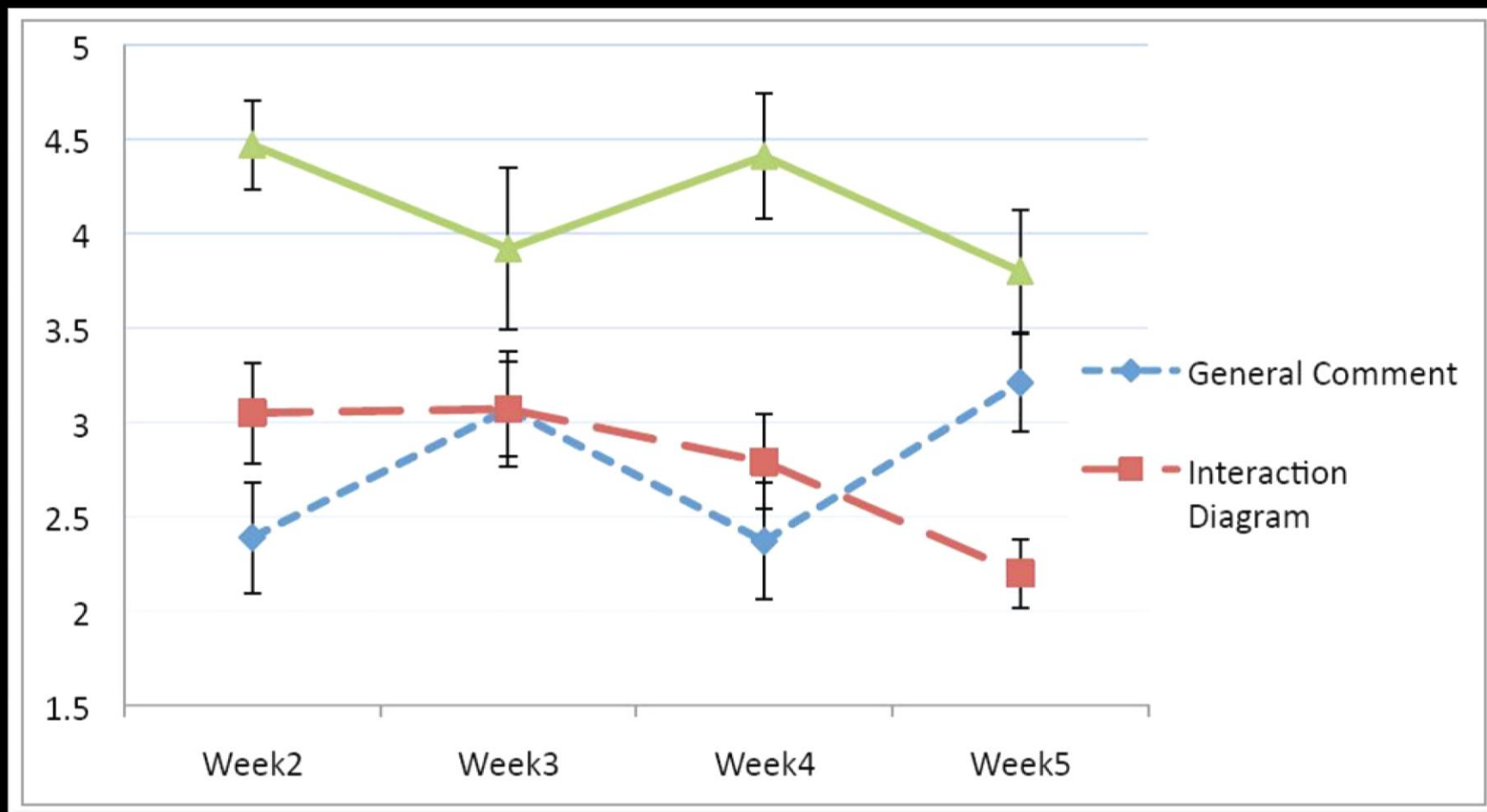
# Result: Interactivity



The Total number of messages on discussion board per week



# Result: Quality of Messages



The mean score of messages on discussion board per week



# Effects of Diagram

- Interaction diagram and comments
  - Encouraged students to be active in discussion
  - Did NOT guarantee knowledge construction
- Topic diagram and comment
  - Seemed to suppress interactivity
  - Encouraged students to elaborate their ideas and be responsive to others' messages
- How can we combine the benefits of the two type of diagram?

# Thank You!

Need Precedings?

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# Quality of Discussion

Contribute to discussion by

- initiating a new discussion topic, providing a new idea, or clarifying a discussion goal.
- Responding peers' message with supporting evidence, counter arguments or alternative aspects.
- Evaluating or synthesizing topics to reach a conclusion.

