DATA-INFORMED GROUP FORMATION TO IMPROVE COLLABORATION

COURSE CONTEXT & DESIGN PROBLEM

Context	Fully online, asynchronous undergraduate Information Systems course (team-based project).
Design Problem	Teams contributed unevenly and relied on surface-level agreement in online discussions.
Instructional Solution	Explicitly assigned roles (Moderator, Skeptic, Summarizer, etc.) within teams to carry distinct interactional responsibilities.
Key Impact	Teams with assigned roles showed more distributed participation and clearer patterns of synthesis and critique. The roles served as lightweight scaffolds for team analysis.

INSTRUCTIONAL DESIGN SOLUTION: ROLE-BASED STRUCTURE

Roles Implemented

Moderator – supports interaction flow and coordination

Summarizer – integrates ideas across posts

Skeptic – challenges assumptions and raises counterpoints

Source Searcher – introduces external information and evidence

Theoretician – connects ideas to conceptual or theoretical principles

Key Design Decisions

- Roles were **explicitly assigned** within teams
- Each role carried **distinct interactional responsibilities**
- Role structure was embedded into an existing course project
- Content, case, and deliverables were identical across conditions
- Teams were either **Structured** (assigned roles) or **Unstructured** (no roles) to compare participation patterns during the discussion phase.

IMPACTS &REFINEMENTS

Observed Impact

- Teams with assigned roles showed:
  - more distributed participation
  - clearer patterns of synthesis, critique, and information sharing
- Certain roles (e.g., Summarizer, Skeptic) functioned as interaction hubs
- The role structure helped guide collaboration and improved discussion quality within a standard course design.

Design Reflection & Iteration

- Role clarity mattered more than discussion length.
- Some roles required more support to balance cognitive demands.
- The framework is adaptable to other online, team-based learning contexts.
- The roles served as lightweight scaffolds for team-based analysis.