

Discussing Medical Cases Online

Transcript Analysis of the Interaction of Advanced Level Medicine Students

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Reason for this study

- Online asynchronous discussions are often used within CSCL-environments
- How to set up?

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Context / Aim

- Context
 - During clinical rotation pediatrics
 - 6th-year students medicine (N=49)
 - Anytime / anywhere
- Aim
 - Enhance reflection and critical thinking
 - Patient management and treatment

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Central Research Question

- What is the impact of assigning roles to students in a CSCL environment on the social construction of knowledge?

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Research Design: Discussions

- 12 months
- Approximately 4 to 5 students per month
- Participation obligatory
- Duration of case discussion: 2 weeks
- Two cases discussions ran simultaneously
- In total four case discussion per month
- Information about patient history, complaints and diagnosis provided.
- Focus on patient management and treatment

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Research Design: Key Variables

- Focus on two roles:
 - Moderator
 - Alternative searcher
- Two key variables:
 - Position of the moderator:
 - Instructor versus student
 - Presence of an alternative searcher:
 - No versus yes

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Gunawardena, Lowe & Anderson (1997): Interaction Analysis Model

- Social knowledge construction: 5 phases:**
- Phase 1: sharing/comparing of information
 - Phase 2: the discovery and exploration of dissonance or inconsistency among ideas, concepts or statements
 - Phase 3: negotiation of meaning/co-construction of knowledge
 - Phase 4: testing and modification of proposed synthesis or co-construction
 - Phase 5: agreement statement(s)/applications of newly constructed meaning

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Reliability & descriptive results

- Interrater reliability $PA = .75$ ($\kappa = .44$; $\alpha = .54$)
- Not excellent but fair enough
- A lot of message units situated in phase 1 (69%)
- Less in phase 2 and 3 (10% - 15%)
- Few in phase 5 (6%)
- Almost none in phase 4 (1%)

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Hypothesis testing: set-up

- Dichotomous variable: phase 1 vs. higher as *dependent variable*
- Variable Moderator (Instructor vs. Student) and variable Alternative searcher (no vs. yes) as *independent variables*
- Hypotheses:
 - Main effect of Moderator
 - Main effect of Alternative searcher
 - Interaction effect

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Results

- Main effect of Moderator is significant:
 - Higher phases of social knowledge construction when student is moderating
 - Message units are 1.75 times more likely to be categorized as a higher phase of knowledge construction if the moderator is a student.
- Main effect of Alternative searcher is not significant
- No significant interaction effect

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Discussion

- Possible explanations:
 - Few message units situated in higher phases of social knowledge construction:
 - Learning culture of students?
 - Higher phases if student is moderating:
 - Students more forced to search for dissonance and to go into negotiation without moderator?

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Conclusion & Further Research

- Conclusion
 - Significant effect of role: Moderator
 - Higher phases of social knowledge construction if student is moderating
 - No significant effect of role: Alternative searcher
- Further Research
 - Confirmation / explanation of these effects
 - Operationalise roles in different ways

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