# Game-Talk: Media-Based Mentoring as a Process of Reframing Relationships and Reframing Perspectives

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**Abstract:** In this study, we used a unified discourse lens and the constant comparative approach to develop an emergent framework about media-based mentoring in the context of an academic social network and a science video game. In this framework, media-based mentoring is characterized as a process of reframing person-to-person relationships, reframing person-to-game relationships, and reframing person-to-world relationships.

## Introduction

In this paper, we provide an analysis of media-based mentoring as enacted in conversations around a science video game. We used methods of unified discourse analysis (Gee, 2015) and grounded theory (Charmaz, 2006) to characterize a form of productive talk among middle school students and college student mentors in a digital space built around a science video game. We characterize this media-based mentoring as a process of reframing relationships and reframing perspectives. Specifically, participants reframed relationships with each other, reframed relationships with the science game, and reframed relationships with real and future worlds.

## Method

### Participants and setting

We collected data for this study from a process of mentoring that linked 28 middle school students with 16 science-affiliated college student mentors. The school was in a rural community located sixty miles from the nearest city. The middle school students in our study identified as 79% Hispanic, 17% Caucasian, and 4% mixed-race. 91% of the students at the school qualified for free or reduced lunch. The 16 volunteer mentors were undergraduate students affiliated with a science or engineering course at a large university.

### Design

Digital media was central to the process of media-based mentoring we examined and report on in this study. Digital media provided the information and tools to support collaborative inquiry, a platform for communication, and a virtual world for media-based interactions and scientific inquiry (Gould & Parekh, 2017). We employed group mentoring (O'Neill, 2004) using the media of the Mystery of Taiga River video game (Barab & Arici, 2014) and the academic social networking platform, Ed Modo. Groups of three or four middle school students interacted with two or three mentors over a period of twenty class sessions.

### Research approach

To analyze the discourse, we examined the online discussion logs for each of eight groups. We also examined the sixteen Mystery of Taiga River video game plays. The discussion logs were composed of 2845 lines of interactive discourse. The game plays were composed of actions, decisions, and written arguments as enacted collaboratively in the virtual world. These game plays were composed of unique interactions and affordances used to test out and make things happen in the game world. In other words, the way the game responded was part of the enactment and part of the discourse that we analyzed (Gee, 2015). We initially coded transcripts of the discussions, observations, enactments, and interactions line-by-line to compare, conceptualize, and categorize (Charmaz, 2006). After this initial coding, we used a unified discourse lens to refine and elaborate patterns among the categories (Gee, 2015).

## Findings and emerging framework

Based on our analysis of the transcripts and the video game plays, three forms of reframing emerged. 1) Participants reframed their roles and relationships with each other from strangers to acquaintances and friends. 2) Participants reframed their roles and relationships with the science game. 3) Participants reframed their roles and relationships with the broader world beyond the game. An example of each of these forms of reframing is shown in Table 1.

Table 1: Framework for a theory of media-based mentoring

| Form of reframing | Example |
|---|---|
| Reframe roles and relationships with each other | Mentee: What do you mentors do?<br>Mentor: Just like all of you, I am playing the Taiga River game. If you have any questions as you try to solve the fish problem, let me know and I will do my best to help? Even more, if you have any questions about STEM or college, please feel free to ask. |
| Reframe roles and relationships with the video game | Mentee: My claim was that factories are causing acid rain but the claim failed.<br>Mentor: That's okay, just make sure you write why the factories are not causing the fish to die in your report. Keep investigating! What hypothesis are you going to try next? |
| Reframe roles and relationships with the video game | Mentee: We are in the future checking to see if our new rules have worked out.<br>Mentor: That's good! Did the rules work? |
| Reframe roles and relationships with real and future worlds. | Mentee: That is so cool! Glowing jellyfish! I never thought about that until now!<br>Mentee: That is really cool. I want to take that class when I go to college!<br>Mentor: You both could take that class in college! There are lots of cool concepts in science so if you have any questions about them, let me know and we can talk about them! |

## Discussion and implications

Our findings illustrate the emergence of a media-based mentoring process characterized by a central theme of reframing relationships and reframing perspectives. Through collaborative reflection, participants reframed their perceptions of roles with each other and reframed their perceptions of roles with science and the video game. The dialogue wasn't just about content. It was about relationships to that content and what participants could do with those relationships. They could test out a hypothesis, think about a novel idea, build an argument, or plan for their futures. For example, as the middle school youth and their mentors interacted around an acid rain hypothesis, they stepped back from the action in order to perceive their action and potential actions from different viewpoints. They discussed their relationship with the game when they talked about going to the future "to see if our new rules have worked out." Throughout the mentoring process, participants discussed what they could do with the content or with the game and what they could do with their relationship with the content. The process of media-based mentoring impacted the ways our participants talked about and viewed their real and future worlds. In alignment with unified discourse theory, we found that the language of mentoring functioned not only as a vehicle for conveying information, but also as a means for building things and doing things in the world. The language of media-based mentoring functioned to enact changes in relationships and changes in perspectives for the participants in our study.

## References


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