

Graphical Visualization of Online Discussion Boards and Their Positive Impact on Student Interactivity

Context

Online discussion boards are becoming increasingly important as a means of communication for online and blended courses. They provide a medium for discussion group members to communicate with each other, share viewpoints and opinions, and learn from each other. However, the linear, text-based nature of "traditional" discussion forums is not conducive to face-to-face conversations and does not promote interactivity among learners or group cohesion—which are often important antecedents for learning and performance outcomes. As a result, we explore how graphical visualization of discussion boards helps promote communication and cohesion within online discussion groups. Using a novel graphical visualization called Nebula, we present the traditional discussion board in Canvas as a network graph, where nodes are posts and edges are replies connecting posts together.

Project

Using social network analysis and computerized text analysis, we investigate how graphical visualization of online discussion boards impacts information exchange and idea sharing and whether increased communication among group members impacts group cohesion.

Objectives & Outcomes

We find that increased exchange of information among group members positively impacts group cohesion and performance. Specifically, students in cohesive groups are able to integrate each other's ideas more effectively and distinguish between plausible and implausible solutions in their discussion groups.

Results

Overall, we found that graphical visualization of discussion boards increases information exchange among group members, leading to higher group cohesion. In addition, we found that

students preferred the graphical interface over the traditional discussion board because it is more intuitive and visually appealing, as well as easier to read and respond to group members' comments.

Lessons Learned

We find that visual representation can impact the overall discussion dynamics, interpersonal attraction, and on-task relevancy of discussion groups. We are interested in performing further research in diverse contexts to confirm and extend our initial findings.