

## Chapter 9

# Graphically Mapping Electronic Discussions: Understanding Online Conversational Dynamics

**Jennifer Howell**

*Australian Catholic University Limited, Australia*

### ABSTRACT

*Transcripts of electronic discussions have traditionally been examined via the use of conversational analysis techniques. Coding such transcripts provides rich data regarding the content and nature of the discussions that take place. However, understanding the content of the messages is not limited to the actual message itself. An electronic message is sent either in response to or to start a discussion thread. Examining the entry point of a new message can help to clarify the dynamics of the community discussion. Electronic discussions do not appear to follow traditional conversational norms. New messages may be immediate responses or they can be responses to messages posted over a longer period of time in the past. However, by graphically mapping electronic discussions, a clearer understanding of the dynamics of electronic discussions can be achieved. This chapter will present the findings of a study that was conducted on three online communities for teachers. The transcripts of electronic discussions were collected and examined via conversational analysis. These messages were then analysed via graphical mapping and the findings concluded that three distinct patterns exist in which electronic discussions may follow. It was further discovered that each of these patterns were indicative of a distinct type of electronic discussion. The findings from this study offer further insight into the nature of online discussions and help to understand online conversational dynamics.*

### INTRODUCTION

The use of computer-mediated text messages in research has been well documented and a number

of frameworks exist for this purpose (Connelly & Clandinin, 1990; Grabowski, Pusch & Pusch, 1990; Hara, Bonk, Angeli, 2000; Henri, 1992; Levy, 2003). Text-based messages commonly used in computer-mediated communication (CMC) have unique characteristics. Whilst they are writ-

DOI: 10.4018/978-1-60960-040-2.ch009

ten texts they do not share the same features as traditional written communication (Henri, 1992) and contain some characteristics of spoken communication. Electronic discussions are divided into threads, with responses to different threads not following logically after one another. This does not inhibit the communicative experience, but is merely a distinguishing characteristic of the medium. McCreary (1990) stated that the written word demands an exactness and coherence of thought, indicating that text-based communication results in more well planned and structured interactions. The message itself can be regarded as a complete communicative unit (Henri, 1992) which has its own meaning and structure.

However, understanding the content of the messages is not limited to the actual message itself. An electronic message is sent either in response to or to start a discussion thread. Examining the entry point of a new message can help to clarify the dynamics of the electronic discussion and which upon a cursory examination, does not appear to follow traditional conversational norms. New messages may be immediate responses or they may be responses to messages posted in the considerable past. This is a feature of electronic text or hypertext, the individual blocks of text, or lexias, and the electronic links that join them (Landow, 1994). Hypertext is a nonlinear form of text that has multiple entry points and perceiving electronic discussions as thus is the starting point for graphically mapping them. As transcripts are essentially banks of online discussions, they are a form of hypertext and need to be considered as such.

This nonlinear characteristic has influenced the way communication interactions are conducted online. Understanding the meaning of the messages has been well researched and there are many conversational analysis frameworks available for use (Garrison, Anderson & Archer, 2001; Gunawardena, Lowe & Anderson, 1997; Hara, Bonk & Angeli, 2000; Harasim, 1990; Henri, 1992; Hiltz, 1990; Levin, Kim & Riel, 1990). However,

by graphically mapping electronic discussions, a clearer understanding of the dynamics of electronic discussions can be achieved. These graphical maps of the electronic conversations can help researchers understand the nature of the discussion and thus help to clarify why electronic discussions may be structured in a particular way and why some discussions are longer and more complex.

This chapter will be presented in six sections. The first is concerned with understanding and analyzing electronic messages via conversational analysis. This will include an exploration of different frameworks of analysis. The second will provide an overview of the participants in the study and the third section will examine the methodological approach and present the findings from the coding of the data. The fourth section of this chapter will present the graphical mapping of the discussion threads and explore the three patterns that emerged; (1) flowchart; (2) regular cluster and (3) bonded cluster. The fifth section of the chapter will discuss if graphical mapping of discussion threads help in the understanding of differences between electronic discussions and the nature of those differences. The final section of the chapter will present how this study offers further insight into the nature of online discussion and helps to further understanding of online conversational dynamics.

## **GRAPHICALLY MAPPING ONLINE CONVERSATIONS**

The rise in use of electronic communication has resulted in many different approaches to understanding those exchanges. With regard to graphically mapping those conversations, the approaches can be categorized as being either automated or physical. Automated graphical maps are produced by software programs that run diagnostic algorithms across the electronic messages and result in graphical images, such as box plot graphs of characteristics such as frequency,

14 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/graphically-mapping-electronic-discussions/50339](http://www.igi-global.com/chapter/graphically-mapping-electronic-discussions/50339)

## Related Content

---

### Four Questions You Should Ask Before Using Virtual Reality for Psychological Research

Max Teaford, Feng Guo, William W. Moore, Madison Murray, Hannah C. Daugherty, Connor Callaway, Madalyn Filetti, Maddox Holtz, Tanner Greene and Shyla S. Khan (2025). *International Journal of Virtual and Augmented Reality* (pp. 1-9).

[www.irma-international.org/article/four-questions-you-should-ask-before-using-virtual-reality-for-psychological-research/374030](http://www.irma-international.org/article/four-questions-you-should-ask-before-using-virtual-reality-for-psychological-research/374030)

### Virtual Reality and Metaverse Methods to Supporting the Simulation Training

S. Lakshmana Chari, Atul Singla, Q. Mohammed, Amrita Saha and Nadimpalli Venkata Ganapathi Raju (2025). *Optimizing Virtual Reality and Metaverse for Remote Work and Virtual Team Collaboration* (pp. 263-278).

[www.irma-international.org/chapter/virtual-reality-and-metaverse-methods-to-supporting-the-simulation-training/356803](http://www.irma-international.org/chapter/virtual-reality-and-metaverse-methods-to-supporting-the-simulation-training/356803)

### Seeking Accessible Physiological Metrics to Detect Cybersickness in VR

Takuro Magaki and Michael Vallance (2020). *International Journal of Virtual and Augmented Reality* (pp. 1-18).

[www.irma-international.org/article/seeking-accessible-physiological-metrics-to-detect-cybersickness-in-vr/262621](http://www.irma-international.org/article/seeking-accessible-physiological-metrics-to-detect-cybersickness-in-vr/262621)

### The Pedagogical Considerations in the Design of Virtual Worlds for Organization Learning

C. C. Chou and Rama Kaye Hart (2012). *Handbook of Research on Practices and Outcomes in Virtual Worlds and Environments* (pp. 551-569).

[www.irma-international.org/chapter/pedagogical-considerations-design-virtual-worlds/55922](http://www.irma-international.org/chapter/pedagogical-considerations-design-virtual-worlds/55922)

### Isn't It Real?: Experiencing the Virtual Church in Second Life®

Emil R. Kaburuan, Chien-Hsu Chen and Tay-Sheng Jeng (2012). *Handbook of Research on Practices and Outcomes in Virtual Worlds and Environments* (pp. 270-287).

[www.irma-international.org/chapter/isn-real-experiencing-virtual-church/55906](http://www.irma-international.org/chapter/isn-real-experiencing-virtual-church/55906)