

Virtual Play and Communities: The Evolution of Group Roles in Electronic Trace Data

Alison N. Novak
Culture and Communication
Drexel University
ann37@drexel.edu

Christopher M. Mascaro
iSchool
Drexel University
cmascaro@gmail.com

Sean P. Goggins
iSchool
Drexel University
outdoors@acm.org

ABSTRACT

In this study we focus on the development of jargon within an online community dedicated to a national adult recreational sports league. The complete dataset incorporates 336,642 discussion forum posts contained within 9,559 discussion threads over the course of four years. We analyze one cross cutting discussion dedicated to the development of the community's lexicon, in order to establish a baseline of community jargon to be applied in later analysis of the other forums. This discussion, titled "the code", contains 249 comments made by 44 individuals. Our methods marry social network analysis with identification of individual, task and maintenance roles, to examine the roles of actors in establishing and contributing to the adoption of the set of jargon. Our findings build an understanding how individuals construct a shared language in a virtual space that is used in both the discussion forum and in physical interactions.

Keywords

Online Group Processes, Language and Jargon Development, Network Analysis, Online Discourse Communities.

1. INTRODUCTION

Language use is widely studied in the context of group formation, yet not much is known about the relationship between the development of language and group roles in online discourse communities [2, 3, 4]. It is critical to understand the development of group roles and language in online decision making groups because organizations rely on technological mediation for coordination and information sharing. Despite this transition into the virtual world, little is known about the relationship between online group decision-making, group roles, and language development [1].

We utilize a national adult recreational sports league discussion forum comment thread entitled: "the Code," to analyze the development of the group's lexicon over 4 years of activity. The discussion forum is utilized by participants in the league to carry on discourse in addition to physical interactions. During the discussion that occurs within 7 distinct time periods in 4 years, 53 words are identified, explained, and used within the context of the league. The comment thread we analyze shows the development of this jargon, and the negotiation of proper usage of each of the terms. The small subset of individuals who participate in the discussion, combined with our analysis of the threaded response structure in the forum supports the application of social network analysis for group role identification. This provides us with insight about how different group roles related to the creation and maintenance of the group's lexicon, evolve over time.

2. LITERATURE REVIEW

Benne and Sheats identify 27 roles that individuals play in groups, placing each specific role in one of three categories: task roles, building and maintenance roles and individual roles. [2] Group task roles "facilitate and coordinate group effort in the selection and definition of a common problem and in the solution of that problem [2]." Building and maintenance roles are "are designed to alter or maintain the group way of working, to strengthen, regulate and perpetuate the group as a group [2]." Individual roles serve "some individual goal which is not relevant either to the group task or to the functioning of the group as a group [2]. These role categories are congruent with McGrath's [1] identification of three purposes for every group: The completion of group work, the maintenance of the group and the satisfaction of some individual need.

Arrow, McGrath and Berdahl define groups as complex systems of global and local origins. Local group dynamics refer to the relationships that form within the group. [1] Local dynamics include "elaborating the coordination network" (denoted by the appearance of task roles), "enacting and maintaining the coordination network" (denoted by the appearance of maintenance roles), and "modifying the network: feedback and learning" (denoted by the appearance of individual roles) [1]. This system works in a constant cycle until the group's work is done [1]. These three phases work in conjunction with the task, individual, and maintenance roles identified by Benne and Sheats.

3. METHODS AND DATASET

We utilize a comment thread of an online adult recreational sports league to understand how jargon is established, negotiated and utilized in both physical and virtual spaces and how individuals participate using different group roles. The comment thread contained 249 comments from 44 participants over the course of 4 years. The four-year time period consisted of 7 distinct time periods where discourse occurred. These time periods were identified through identification of high periods of activity followed by weeks of no activity.

First, the researchers coded the thread for conversational behavior between individuals. In the thread 226 of the 249 messages were explicitly directed at another participant. This allowed for the creation of conversational pairs of activity. In the other 23 cases the responses were directed to the forum and in these instances the activity was coded as being directed towards the actor "GROUP." These pairs were then used to construct seven social networks corresponding to each time period and one social network diagram that illustrates overall activity of the group (figure 2) utilizing the open source social network analysis tool GEPHI.

After identifying discourse activity between individuals and constructing the social network, the researchers performed content analysis on each of the 249 comments. Each comment was coded for a group role as identified by Benne and Sheets and comments were eligible to receive multiple codes [2]. The distribution of group roles was then examined to understand the progression of specific categories of roles over time.

4. RESEARCH QUESTIONS

We use the following set of research questions to guide our initial analysis in understanding jargon in an online discourse community:

1. What is the distribution of group roles in an online discourse community attempting to negotiate a shared language of jargon?
2. How does social network analysis help augment analysis of group roles?

5. FINDINGS

Figure 1 below illustrates the fluctuation in group roles as identified by Benne and Sheets over the 7 time periods within the data. In online groups, conflict is demonstrated through the individual roles of aggressor and sometimes the joker. [1] Periods where conflict and individual roles are highest denote the times where the group seems to be doing the most work in modifying the network. In this case, time period four, where 73.1% of all roles were individual, is the time period when the group seems to be undergoing the most change. This correlates to the time period when the specific meanings of words were intensely debated.

The high level of task roles early on illustrates a community attempting to work together to establish a shared language. Building and maintenance roles are relatively steady throughout the whole time period illustrating the existence of a specific set of work being performed within the context of the discussion thread. It is also likely that these roles are being performed in physical group interactions. The absence of a high number of these types of roles reveals important distinctions between the interaction and communication of online and physical groups.

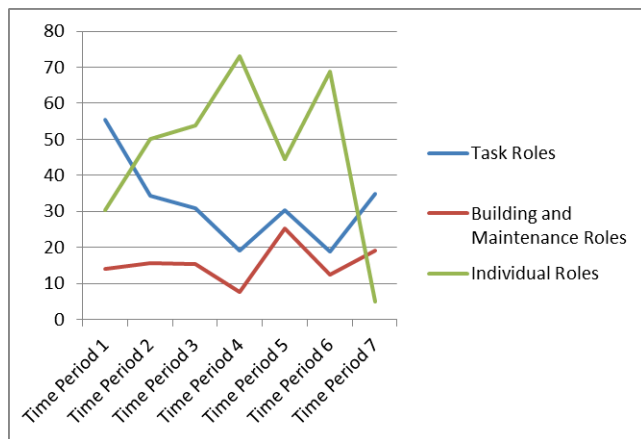


Figure 1. Group Role Appearance over Time

5.1 Global Community Analysis

The network diagram of the discourse over the whole time period (figure 2) illustrates two distinct sets of actors. Actors who persist throughout each of the time periods exist within the core and

peripheral actors who participate in specific time periods tend to be more on the periphery. Actors in the core of the network in figure 2 are those most responsible for establishing large parts of the shared jargon and those responsible for negotiating meeting with others in the network

The participation of different actors at different time periods illustrates the fluctuation in group roles over time. The participation of different actors at different time periods illustrates the fluctuation in group roles over time. The ephemeral participation of certain actors within the network is correlated to the different group roles identified within each time period. For example, the spikes in individual roles in time periods 4 and 6 correlate to the participation of individuals who were not present in the discourse in other time periods.

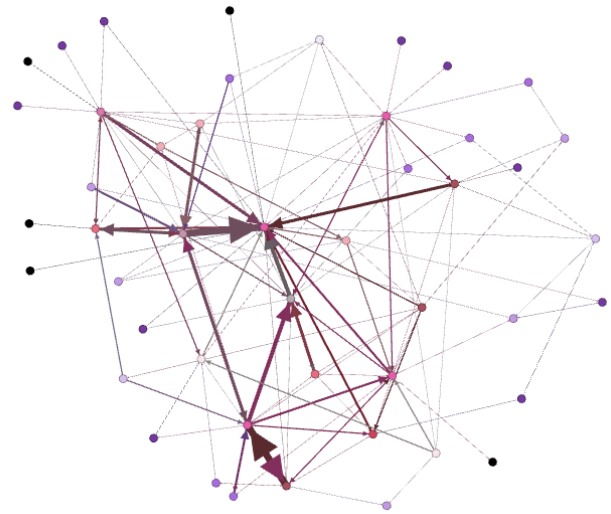


Figure 2: Complete network of discourse

6. FUTURE WORK

This study can be expanded in the future to draw further insights about the relationship between Benne and Sheets and Arrow, McGrath, and Berdahl's work. By coupling network analysis and group role analysis with language development process analysis, it would be possible to draw further connections between online behavior and jargon development and how specific actors influence the process.

7. REFERENCES

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