

Understanding the Life of an Online Community through Analytics

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Abstract: Online learning communities have existed and been studied for a long time now and changes in the nature of the Internet have changed the forms of these communities. The present study proposes to understand a little-investigated side of online communities, long-term structural changes. To that end, we present preliminary data and a plan of analysis that will uncover six-year changes in participation, leadership and member attitudes toward a blogging community of amateur athletes.

Introduction

Online communities have been a staple of the Internet since its infancy and have only seen a mercurial rise in the last decade in the form of social media, social networks, virtual worlds and many user-generated content websites. A peculiar characteristic of many such communities is that they are informal or non-formal in nature, created by an initiator or a small group of individuals who are joined by others over a period of time, to share, discuss, learn and otherwise engage in a topic of interest. Concurrent with the rise of these communities has been a rise in academic interest in their structures and outcomes. Several different lenses may be used to understand the mechanisms and culture of an online learning community – such as sociological, educational, economic, etc. The goal of these lenses is to understand the community's content and activity, patterns of participation and the resultant sociological, educational, economical, etc. outcomes. However, rarely is an online community studied over a lengthy period to uncover *changes* in content, participation and outcomes. The present study proposes to do just that.

Study Design and Initial Findings

Differences in participation are explained by Lave and Wenger's (1991) idea of a community of practice as well as Gee's (2005) idea of 'affinity spaces'. Both refer to participation in an activity of shared interest, with Gee's focus on space rather than membership. To some degree, both these characterizations seem to fit the community and space we are studying- a blogging community of amateur athletes (triathletes, marathoners and adventure racers). This community has existed for close to six years, has 12 member-contributors and 16 acknowledged followers. The blog is public. It was started by one founding member who wished to run a race as a fundraiser for a cause of his choice. Initial invitees included his lifelong friends and new members were added by invitation or recommendation. Understanding changes in participation in online communities is commonly done through Lave and Wenger's (1991) Legitimate Peripheral Participation model where the community is in a state of flux as far as degrees of participation are concerned and the movement is from a state of low to high participation until the member leaves the community (Bryant, Forte and Bruckman, 2005). However, we propose that this model overstates the likelihood of such movement in a community like the one in question. Similarly, the affinity space model (Gee, 2005), which often refers to massive online groups for illustration, is largely silent about the nature of participatory change other than acknowledging individual variation. So, neither Lave and Wenger's work nor Gee's view satisfy our need to model how participation brings about longitudinal changes to this blog.

In order to understand and model it, we chose to analyze the number as well as the content of every contributor's posts. To that end, Figure 1 depicts the former in terms of every member's contribution as a percentage of the yearly posts. According to the Lave and Wenger (1991) model, the lines depicting low initial participation (the community became operational in 2007) should rise higher as they move toward the right and closer to present day, and converge toward the middle. However, the activity of all but one of the members ('A') rejects this model. In all other cases, activity is either robust at the beginning of the 6 year period but gradually and consistently dips lower or stays steadily low throughout. In fact, although the graph includes data from 12 contributors, only 6 were plotted since contributions of the rest were consistently miniscule. These members may be termed 'lurkers' (Bishop, 2007) or 'listeners' (Wise et al, 2011) and the above model would suggest that their contribution would move them higher up in the graph as the years progressed. Clear evidence of their lurking is expressed by their replies to other members' posts mentioning them despite rarely making original posts of their own.

We are currently in the process of analyzing content over the 6 years, looking for trends in relationships between specific content and contributor, if any. In addition, we aim to better understand lurking/listening in the community by analyzing comments and page views per post. By connecting these dots, we hope to understand leadership in the community and specific forms of activity that propel leaders. The final part of this study is interviewing contributors in order to better understand the changes we find in their participation over the years –

specifically the reasons for both increases and decreases in it, their attitude toward the changes and, of particular interest, the relationship of this community and its content with their real life physical activity. The goal is thus to generate several kinds of data and understand the activity of this community more completely. Although such research has a rich history (e.g. Fields and Kafai, 2009, Harris et al, 2009), using both backend data and interviews as data sources is unusual.

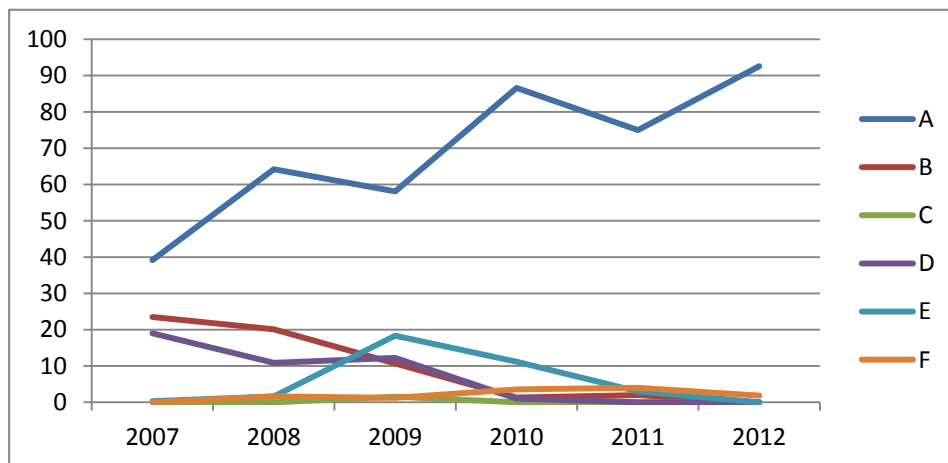


Figure 1: Member participation expressed as a percentage of posts per year between 2007 and 2012

Implications and recommendations for future research:

Given the limited degree of work done so far, we have few implications to offer. However, to the best of our knowledge, research of this scope or focus is currently not under way. There are several good reasons for initiating it:

- If the goal is to encourage participation in online communities of practice or affinity groups, then understanding patterns of activity, reasons for changes, leadership and forms of participation over long periods of time is important (Bishop, 2007).
- This is a 'naturalistic' environment that does not force/coerce or otherwise require participation, providing important insights into the life of an online community. Such insights may even be used to understand patterns of participation in MOOCs, given the freedom and self-initiated participation are their cornerstones.
- Depending upon the topic at hand, who dominates and what they say may have important implications for members' well-being. Researching participatory changes may help us monitor it better.
- Since participation makes a community, studying historical changes in the degree and kind of participation in the community will give us a more coherent picture of its life.

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