Facebooking in Distance Education: Constructing Virtual Communities of Practice

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Abstract: The growth of distance education warrants a closer look at how virtual communities of practice form in asynchronous online classrooms. Prior studies have sought to identify a process to virtual community formation, which may vary depending upon the media used for collaboration. This microstudy examines how one student group in a distance writing course used the popular social media site Facebook to construct community and whether the stages of virtual community development were observed in this setting. Findings suggest that revisions might be made to our current understanding of the process of building virtual community within small groups. "Othering" and social norming should be considered as an important step in the group's progress toward a co-identity and knowledge-sharing community. The construction of social norms is so important to group co-identity that it transgresses the established norms of communicating through Facebook. Further, the use of a social media site for group communication may encourage social interaction and cyber-play among the group, to either the detriment of work-related discourse or benefit of friendship-making. Further, the process of virtual community formation is largely iterative where the quality of discourse depends on the nature of group tasks rather than time.

Introduction

The growth of distance education programs and the popularity of social networks among today's generation of learners have some of us wondering whether effective knowledge-sharing can take place on the web. Using both synchronous and asynchronous tools, members construct virtual communities of practice centered on commonalities shared by the group. Some virtual communities exist for years, while others gradually fade away. Research on virtual communities of practice suggests that dedicated interaction and identification with a group offers many benefits for members and strengthens the quality of knowledge-sharing taking place among them. As an online writing program coordinator and distance educator, I find myself wondering how I can aid students in constructing and maintaining virtual COPs in their individual courses. There exists little research on the dynamics and processes of virtual group formation (Waltonen-Moore,

Stuart, Newton, Oswald, & Varonis, 2008), and current theories about virtual community development could benefit from further testing.

Distance educators face increased challenges to offering quality instruction that accommodates the needs and expectations of distance learners. More and more, those expectations include a strong sense of community with peers. By examining the development of virtual community within an asynchronous group communicating via the social media site Facebook, this study aims to learn whether a group participating in this environment can effectively move through the stages of virtual community outlined in current research. The use of Facebook for group communication removes some of the technological obstacles that sometimes occur when distance students must learn to use a new technology to communicate. However, one obvious drawback to using Facebook is that students who use it for social purposes may not be able to adapt to its use as an educational tool. While the study will be small in scope and subjects, it could still provide a valuable snippet of research about how asynchronous communication on the web affects the construction of virtual community and the way distance learners approach virtual community development in their classes. Additionally, it may provide insight into the best practices for distance educators and program directors seeking effective methods for creating virtual communities among students.

To understand how—if at all—this small group of students moves through the stages of virtual community, I have employed a content analysis of their communication records. After thirteen weeks of communication, I accessed, collected, and categorized all Facebook posts within the group's page. I then categorized each thread into one of five stages discussed by Waltonen-Moore et al. (2008) and Salmon (2002) in order to understand how effectively the group communicates knowledge, conveys trust, and constructs an "us" versus "other." The results of an optional survey will reveal participants' perceptions of virtual community development within their group, which will then be compared to my textual analysis. In addition to learning how the Facebook group moved through the stages of virtual community, I had several other research questions about the stages themselves:

- At what stage do members begin to convey a sense of trust?
- At what stage do members begin to construct "us" versus "other"?
- At what stage do members begin to establish social norms?

Indentifying at which stage each occurs can provide further insight into the process of virtual community stages and strengthen the descriptions of stages currently used by scholars of distance education.

Review of the Literature

Community, once determined by physical proximity, now transcends space and place as more people search for like-minded individuals on the web. Rather than forming among those who live or work closely together, today's communities are composed of individuals who share common purposes and inquiries (Garrison, 2007), or joys and trials (Brown, 2001). These communities are referred to as communities of practice, where a

group is "united in action and in the meaning that action has for them and for the larger collective" (Ardichvilli, Page, & Wentling, 2003). This action typically takes the form of knowledge creation, accumulation, and diffusion (Waltonen-Moore, Stuart, Newton, Oswald, & Varonis, 2008). Communities of practice are informal entities, unlike the formal structures produced within workplace departments or project teams (Ardichvilli et al., 2003). In order to exist as a community of practice, members should have knowledge to contribute, but they must also have knowledge gaps that can be filled by the community. Knowledge-takers share the same goals as knowledge-givers; however, the former make the latter possible (Ardichvilli et al., 2003). As such, a community of practice may also be considered a *community of learners*, defined as a group with a shared purpose that sees good communication and a climate of justice, discipline, and caring (Brown, 2001).

Geographical co-location is no longer a prerequisite for developing social ties as we become more adept at maintaining relationships at a distance and on the web (Haythornthwaite, 2002), hence the inception of the virtual community, a term coined by Howard Rheingold in 1993. A 2003 research study of professional virtual knowledge-sharing communities found that, like their traditional counterparts, such communities exist in the minds of those who consider themselves members and who participate in the knowledge give-and-take enabled by the community (Ardichvilli et al.). It should also be noted that virtual communities of practice are not to be treated like knowledge databases. Haythornthwaite (2011) described the difference between knowledge communities and knowledge crowds. A knowledge crowd participates in the construction of a databank of knowledge, which requires low barriers for entry and low commitment. Such crowdsourcing is common on knowledge-aggregate sites like Wikipedia where contributors share whatever knowledge they can. Knowledge communities by contrast require full acknowledgement and attention to other members of the community. So, while members participate in ways that are similar to crowdsourcing practices, Haythornthwaite argued that the difference is in how they engage with one another to contribute to this knowledge resource. Such knowledge databases represent an "online commonplace" where information is shared rather than an online community where knowledge is shared (Zhang & Watts, 2008). Sharing experiences more effectively enables participants to internalize tacit knowledge, and effective sharing activities encourage member participation (Ardichvilli et al., 2003). A distance educator's goal is not to create knowledge databanks, but to encourage students to practice knowledge-sharing. As a community, whether traditional or virtual, achieves a stage of knowledge creation among its members, it reaches the status of a community of practice (Zhang & Watts, 2008).

Prior research on both traditional and virtual learning environments indicates that peer interaction results in better learning through improved construction of knowledge and negotiation of meaning (Garrison, 2007; Waltonen-Moore, et al., 2008). Peer interaction is considered an indispensible component in the creation of a virtual community of practice (Waltonen-Moore, et al., 2008). In addition to its effects on learning, forming a community of practice among distance learners can impact student satisfaction and retention (Brown, 2001). Since distance students do not have the benefit of experiencing

"campus life," they risk feeling isolated from their peers and teachers as well as the program itself (Haythornthwaite, 2002). Previous studies have found that students who drop out of or struggle with distance courses are often the ones who most often report feeling isolated in the course (Waltonen-Moore, et al., 2008; Brown, 2001; Bronack, et al., 2008). To reduce students' feelings of isolation, group interaction alone will not suffice—a sense of social connectedness is critical (Waltonen-Moore, et al., 2008; Valentine, 2002).

Constructing "Us" and the "Other"

In order to develop this sense of connectedness, students must make friends of their peers (Brown, 2001). Friendship is not within an educator's boundary of control, and that is likely why it is so important to students in distance courses. It is not institutionalized and cannot be enforced: friendship is voluntary, informal and personal (Carter, 2005). Carter found friendship to be form of relief from the stress of other role performances. She further suggested that friendship lacks social hierarchy, creating a sense of equality necessary among peers and becoming the "social glue" of the vCOP. This equality is important to creating an atmosphere of trust, which in turn encourages contributions of knowledge from peers. Other studies on participant motivation indicate that trust can be a determining factor in reducing fear of criticism and encouraging member participation (Ardichvilli, Page, & Wentling, 2003).

When distance students identify with their peers and begin to form a community of learners, they develop what Haythornthwaite (2002) referred to as a "'we' feeling." This group identity is important as students take on the challenges of the distance course—everything from assignments to dealing with the technology. Social unity cushions stress, provides emotional support, and offers companionship. The implied "we" also elicits feelings of trust among members, which encourages contributions to the group discourse (Ardichvilli, Page, & Wentling, 2003). Important, too, is the knowledge-based trust formed among members through recurrent social interaction, which according to Ardichvilli, Page, and Wentling transpires when members are able to predict how their contributions will be received by peers. In a 2003 study, they identified such trust to break the barrier of information-hoarding that occurred when some community participants felt like their knowledge wouldn't be useful, or they simply didn't want to share it with others. Brown (2001) expressed the significance of peers judging one another through the quality of their contributions as they make friends and welcome others into the community.

Creating a sense of "we" among peers also requires the presence of an "other." Examining the ways in which groups recognize and acknowledge themselves, Gurrutxaga and Luna wrote, "The communal group needs the 'other' in order to secure the acknowledgement that the consciousness of 'us' produces and reproduces" (2011, p. 76). In other words, the group defines how members should act in contrast with how the "other" acts, or those outside of the group. As members manage and maintain group rules they protect what Gurrutxaga and Luna called the symbolic frontier. Incoming members adapt to the group rituals in order to be recognized as part of the group; anything from

exclusive language to distinct behaviors serves to define the group's preferred modes of discourse. As the group defines itself separately from the "other," members are better able to establish group collectivity and solidarity.

Predicting the behavior of other members and knowing how to behave become the implicit rules necessary for group identity and cohesion (Haythornthwaite, 2002). In her discussion on building social networks, Haythornthwaite described behaviors such as adhering to the discussion topic and using the preferred modes of discourse as exhibitors of the community's common goals. In order for students to identify the commonalities that make them a "we," they must first share and adhere to common goals (Garrison, 2007; Haythornthwaite, 2002; Ardichvilli, Page, & Wentling, 2003). In other words, merely being enrolled in the same course or program does not automatically imply entrance to the community. Openly coalescing around common goals is essential for establishing a sense of security and trust for members (Garrison, 2007) and is seen as a validation of membership qualifications (Haythornthwaite, 2002).

Facilitating the Stages of Virtual Community

The earliest studies on community formation processes have primarily focused on traditional (face-to-face) settings. Recent studies look more specifically at the process of virtual group formation, where stages share many traits with traditional group processes. In their review of these studies, Waltonen-Moore et al. (2008) determined that "online groups continuously involve themselves in the primary functions of *production*, *well-being*, and *member support*" (p. 292). In order to carry out these functions, these online groups experience four modes of operation: 1) inception of project goal, 2) solution of technical issues, 3) conflict resolution, and 4) execution of performance requirements (Waltonen-Moore et al., 2008). This operation is noticeably similar to the processes of traditional group formation, but it adds a stage dedicated to resolving technical issues. This indicates that solving technical problems is a group concern rather than an individual concern, and requires social support and assistance. Other stages of online community formation include stages related to access, motivation, and online socialization (Waltonen-Moore et al., 2008). These, too, suggest that virtual communities face additional issues related to technology and online interaction, which must be accommodated in the formation process. After synthesizing these works and concluding their study of a five-week web-based course, Waltonen et al. (2008) identified a simple five-stage process for online group development: 1) Introduction, 2) Identification, 3) Interaction, 4) Involvement, and 5) Inquiry, which they feel is best represented through a series of concentric circles moving outward. They further provide key identifiers for contributions that indicate the various group stages.

While some virtual communities are realized and sustained by members themselves, others rely on an administrator's attentive guidance. In the case of distance learning programs, program directors and instructors must take on the responsibility of guiding students to form communities by modeling, then requiring, the kind of discourse and interaction necessary for community formation. These programs face a myriad of challenges when attempting to construct virtual communities among its students, from

lack of institutional support to inadequate technology, yet instructors themselves represent the most immediate need for improvement within these programs (Valentine, 2002). Instructors teaching distance courses often fail to effectively adapt their traditional classroom curricula to the distance setting, which results in assignments and activities that don't demand the kind of knowledge construction necessary to create a virtual community of practice (Valentine, 2002). As a starting point, instructors must learn to accept their role as a facilitator rather than a dominator in online exchanges, where their contributions are initially used as a model for discourse and begin to fade over time as the community becomes increasingly self-sufficient (Garrison, 2007).

Although interaction is necessary to create a community, research shows that such interaction shouldn't feel forced. One form of forced interaction commonly used by distance educators is the asynchronous discussion board prompt. This kind of participation is considered by many scholars to be little more than serial monologues (Garrison, 2007) as well as rote and superficial (Waltonen-Moore, et al., 2008). Rather than asking students to summarize a course reading, faculty should be asking students to resolve a specific problem using the course materials while integrating the ideas of other students in the group (Garrison, 2007). Literature on instructor facilitation of discussion board threads produced a classification system of four themes: Scene setting, participation monitoring, critical thinking facilitation, and student collaboration promotion (Waltonen-Moore, et al., 2008). A 2008 study of an online professional development course found that community began to evolve when sparks of voluntary conversation were observed; however, true engagement didn't occur until participants began working collaboratively on projects and expressed enthusiasm in doing so. In accordance with these findings, the researchers suggest that instructors "create and nurture discussions that allow opportunities for cyber play, confident that initial affective and solitary postings will be gradually supplanted by more critical and collaborative thinking" (Waltonen-Moore, et al., 2008, p. 305). Moments of "cyber play" enable community members to learn more about one another, develop trust, and make friends. It further promotes such socially-constructed talk as both exploratory and constructive in nature, which lead to higher-level thinking.

When a virtual community fails to form in a distance course, research shows that fault does not lie solely with the assignments. Brown's 2001 study of asynchronous graduate-level courses revealed several other problems experienced by students who reported no sense of community with their peers. First, students who did not understand the concept of community nor consider it important may not have realized that one existed around them. In response to this, Brown suggested foregrounding students early in the course by defining virtual community and making clear its significance to the class. Another problem occurred when student participants felt they did not want to be part of a community. To these students, if the interaction was entirely voluntary then they didn't feel the need to participate in it (Brown, 2001). To counter this problem, educators should consider placing a grade value on all contributions to indicate their importance to the overall classroom discourse. Feeling "out of synch" with the class was cited as another problem encountered by a small number of students, often as a result of personal issues (Brown, 2001, p. 26). These students might benefit from an off-topic (or cyber-play)

thread where they can vent their frustrations and receive support from the group. It should be noted that this thread would not be classroom-related and left un-graded. Finally, some students reported that community formation should be entirely voluntary and not forced upon them by assignments. This suggests that students would benefit from creating their own smaller work groups among peers with whom they find commonalities. Brown recommended having students get to know each other through less formal threads in order to facilitate discovery of commonalities. To regularly assist with the community-building process, distance educators might also require what Brown called community reflection pieces throughout the semester that ask students to reflect on their community and how it has evolved. This assignment is significant in that it reminds students of the importance of virtual community development to the course.

Activities for distance learners should accommodate the gradual development of virtual community, reflecting their needs and competencies at each stage of the process (Salmon, 2002). Salmon (2002) offered several assignments and interactive "e-tivities" that accommodate learning at each of the five stages of the virtual community process. In the first stage of community development, access and motivation, students are typically anxious about the technology and course requirements, thus "e-tivities need to be designed carefully to enable the participants to find their way around the online learning platform whilst taking part in relevant and authentic tasks" (p.103). Salmon discouraged posts that request introductions as they frighten most people and are unorganized and unproductive. E-tivities in the second stage, socialization, should focus on getting participants to work together while providing cultural contexts for learning (Salmon, 2002). These should focus on interactive communication that lets students learn about the others with whom they share this space. In the third stage, information exchange, e-tivities should focus on tasks and action, emphasizing knowledge and information-sharing activities that require explanation and clarification (Salmon, 2002). These should also encourage feedback from other members that require further reflection on the quality of contributions. When students exhibit proficiency in working online together and effectively managing their time, they've entered the fourth stage, knowledge construction. E-tivities in this stage are peer-directed and focus on participant work teams; for example, groups could be given an outcome and be allowed to define their own timeline and objective. Asynchronous activities should be varied and elicit debate, criticism, and disagreement. Finally, at stage 5, development, e-tivities should enable evaluation and critique while encouraging metacognitive awareness. Salmon summarizes by arguing that the role of e-moderators is to encourage interaction and participation in community-building as they design e-tivities.

Methods

To test currently-accepted beliefs about the stages of virtual community development, I examined the discourse of a small group of distance education students using Facebook's group page to collaborate. The group was required to provide a total of five meeting minutes throughout the semester, present one PowerPoint on how to use Facebook, and submit one reflective paper about their experience. The assignments were identical for non-studied groups in the course and are intended to meet the course objectives of

learning how to communicate within digital environments and use rhetorical terms and concepts to think about digital writing. Assignments focus on the use of technology (in this case, social media) as cultured activities, fulfilling the Impact of Technology general education outcomes. Groups also serve as peer review and study groups for the individually graded assignments of the course: four Blackboard quizzes on lectures and readings and one personal web site written with HTML. After 13 weeks, I collected the Facebook group's posts for content analysis and categorization.

Student participants were also provided with a voluntary anonymous survey (see Appendix) with questions regarding their experience developing virtual community within the media. Questions two through five are adapted from Haythornthwaite's (2002) discussion of contribution frequency within knowledge communities, emphasizing the importance of certain types of contributions in the community's development. Questions six through nine are adapted from Schlager, Fusco, and Schank's (2002) discussion of the significance of the group's perception of time within the vCOP process, which highlights the time it takes to develop virtual communities and whether the allotted time is sufficient. All but question 8 were close-ended and required an answer to continue the survey. This data will be combined with a textual content analysis of group communication in order to understand how the group demonstrates movement through the vCOP stages described by Waltonen et al. (2008) and Salmon (2002).

Using content analysis to categorize the group contributions allows me to focus on "manifest content" in order to find meaning-based patterns (Huckin, 2004, p. 14). This begins with a conceptual analysis where each thread of conversation within the group's Facebook page is categorized according to the occurrence of concepts described in the 5 categories/stages. The content analysis is taken a step further in order to examine the relationship among the concepts as they, together, construct the entire process of virtual community development. This relational content analysis allows me to consider the meanings behind each post within a thread to better understand their relationship to each other and to the thread's overall meaning. Relational content analysis is important here because some categories are best identified by the collective conversation of the group rather than a single contribution from one individual. Five categories were used, as described in Table 1, and tested using interrater reliability per Huckin's recommendation that the categories of content analysis be tested for reliability to ensure that they are not unmanageable. Cohen's kappa was used to determine the level of interrater agreement.

As I analyzed the group's communication, I looked for indicators of the five-stage process of virtual community discussed by Salmon (2002) and Waltonen et al. (2008). If the student Facebook group moves through the stages as described, then I would be able to identify these stages by the content of student contributions. For instance, contributions that mention trepidation about using the technology would represent stage 1, *Introduction*, while contributions that relayed emotional support or were unrelated to the class represent stage 2*, Identification*. When students shared snippets of their drafts or provided research, I considered that information exchange and categorized that as stage 3*, Interaction*. Contributions that exhibit proficiency in working together would represent stage 4, *Involvement*, while a series of posts that critique contributions or strategize how

to solve problems represent stage 5, *Inquiry*. The table below provides details about how contributions will be categorized into the various stages and aligns the processes of virtual community formation described by Salmon and Waltonen et al. Each thread was manually coded using pen and paper. The number of the stage was written next to the thread and any stage overlap was written in parentheses (for example, if a thread was disguised as social when it was actually a command). The study will refer to stages by the more recent and concise labels provided by Waltonen et al., but Salmon's description of the stages were considered during categorization because it provides more detail about the kinds of activities students should be engaging in at each stage. All posts within a thread will be considered in categorization decisions, and if posts diverge dramatically from the originating post's purpose then that will be noted and considered in the analysis.

Table 1: Stages of virtual community and their conversation indicators.

Waltonen et al. (2008) process	**Salmon (2002) process**	**Indicators in conversation**
1. Introduction	1. Access and motivation	Anxiety about course requirements, technology, quality of contributions
2. Identification	2. Socialization	Off-topic or personal conversations, emotional support and advice
3. Interaction	3. Information exchange	Sharing of knowledge and information, explaining or clarifying one's position
4. Involvement	4. Knowledge construction	Direction provided by leader(s), timelines and activities constructed and maintained by members
5. Inquiry	5. Development	Discussion about strategies for problem-solving, purposeful critique of member contributions

Participants

The subjects are undergraduate students in English 307T Digital Writing taught via two-way video streaming at Old Dominion University. The course description explains that students will learn issues of writing in various digital environments including web pages, email, blogs, wikis, and discussion boards; the fundamentals of hypertext authoring, digital and visual rhetoric, and image manipulation; and apply rhetorical terms and concepts to thinking about digital writing. This course fulfills the general education technology requirement, so students enroll from a variety of majors. Because it is a distance class, student participants are located at several sites, but this particular course originates from the Peninsula Higher Education Center and broadcasts to ODU's main campus, Tricities Center, Virginia Beach Higher Education Center, and Lord Fairfax Community College. While there are 33 students in the course, seven volunteered for the Facebook group**,** which is the focus of the study. Students who chose not to participate in the Facebook group study participated in non-studied groups. The Facebook group had 1 male and 6 female volunteers. Because 24 students in the class are female, or 75%, the

subjects represent a fairly accurate subpopulation of the class as a whole. Identifying markers, such as names, images, and links, were removed from the data before analysis.

Results

Thirteen weeks after the creation of the Facebook group page, I collected and analyzed 109 threads. I placed each thread into a category, making note of any threads that reflected multiple categories. Categorizing each thread provides a sense of which categories dominated the group's discourse and indicates the progression of stages throughout the course of the semester. Most threads, 36, were categorized as stage 1, *Introduction*, while the fewest number of threads, 10, fell into stage 5, *Inquiry*. Interestingly, despite taking place on a social media website, the second fewest number of threads fell into stage 2, *Identification*—known as *Socialization* in Salmon's (2002) process. These findings are visually represented in figure 1. The progression of stages overtime was not apparent, as shown in figure 2. However, one will observe that stage 1 dominates the first third of the discourse, stage 4 dominates the middle of the discourse, and stage 5 occurs most frequently at the latter part of the discourse. Regarding my set of secondary research questions, I found the first expressions of trust occurred in stage 3, *Interaction*, when students began to share with and advise one another. It was in stage 4, *Involvement*, where the construction of "us" versus "other" was observed in conjunction with the creation of social norms, though the two may or may not be correlated.

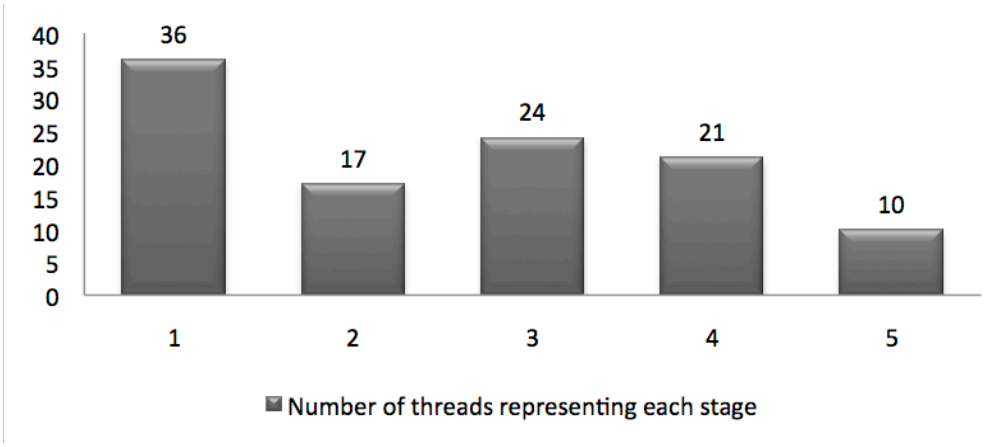

Figure 1: Number of threads representing each stage of virtual community development.

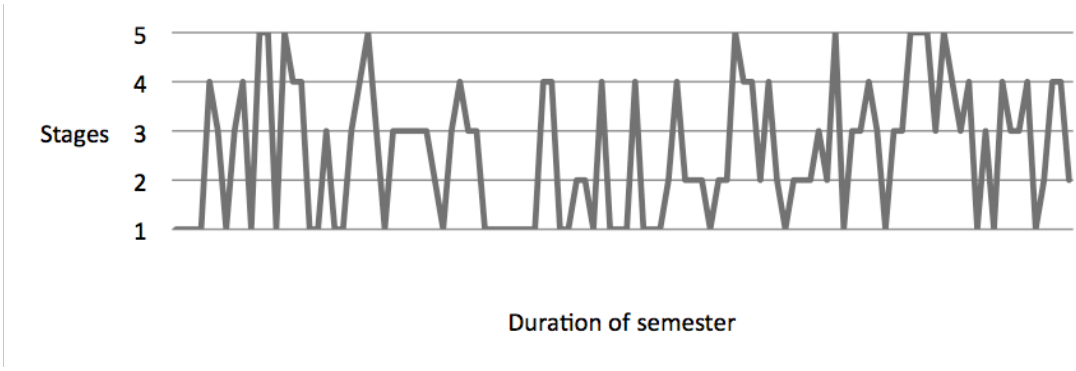

Figure 2: Progression of stages throughout the thirteen weeks.

To ensure the reliability of the categories and data coding, a second rater was recruited and trained to code 22 threads of the discourse, which is a representative sample of 20% and sufficient for assessing reliability (Boettger & Palmer, 2010). Cohen's kappa index was used to determine the level of agreement between the two raters. To find Cohen's kappa, the proportion of expected agreement by coincidence is subtracted from the proportion of units in which the raters actually agreed. This is then divided by 1 minus the proportion of expected agreement by coincidence (Cohen, 1960). The overall agreement between the two raters was calculated at .81, or 81%. According to Landis and Koch (1977), who assigned nomenclature to the relative strength of agreement calculated by Cohen's kappa, .81 represents an *Almost Perfect* strength of agreement. This indicates not only that the level of agreement of categories is coincidentally near perfect, but that the categories themselves are not too many nor too few (Huckin, 2004).

Six out of eight surveys were returned in time for data analysis, and the results indicated that the majority of respondents (five) had a lot of prior experience with Facebook. Half of the respondents reported collaborating and discussing class work more than five times in the previous month. Half of the respondents also indicated that the group had socialized three to five times in the previous month. Two-thirds of the respondents reported that emotional support or advice had been exchanged within the group once or twice within the previous month.

The remainder of the survey questions demonstrated greater division in responses among the group. While four members reported that the group had decided early on not to have a leader, two indicated that leaders had, in fact, been established. And, while four members believed social norms had eventually been established within the group, one recognized no norms in the group and another felt that norms were immediately established. Responses to the final question regarding the group's identity within the class were evenly split: two believed the group was a subset of the class, two believed the group was set apart from the rest of the class, and two were unsure. This question regarding group identity relates to their ability to assimilate to the dominant local culture (Schlager, Fusco & Schank's 2002), and can indicate whether the group had enough time to understand how their goals interconnect with the goals of the larger culture around them. The majority of survey responses confirmed data analysis by indicating that participants recognized the quality and content of their contributions, the purposes and functions of the community, and their enforcement of social norms.

Analysis

Though the data indicates that the group primarily engaged in discourse representative of the earliest stage of virtual community, discourse at all stages was observed throughout the semester rather than in a gradual incline. In other words, the results show that the stages were not achieved in levels that gradually improved over time; instead, higher stages (4 and 5) occurred in conjunction with group assignments modeled after Salmon's e-tivities. The earliest peaks of stage 5 occurred during the first group assignment, an instructional guide to using Facebook, and the later peaks occur during the group presentation and paper on social media as a human and cultured activity. During these peaks, the group negotiated responsibilities and document structure, and analyzed research and assignment guidelines. This suggests that time is not as much of a factor in a virtual community's movement across the various stages as the assignments required in the course. However, stage 4, where leaders tend to emerge, dominated the middle part of the semester. So, unlike stage 5 where students are strategizing and critiquing, stage 4 seems to require more time to establish itself. Two possible factors exist for the slow emergence of stage 4: development of trust among the group (which I believe develops within stage 3) and/or difficulties remaining on-task. These may explain why leaders begin to step in to construct deadlines and assign tasks.

Since the students were using Facebook, a social media website, to collaborate, I expected to see more stage 2 social threads than I did. Interestingly, 14% of the threads categorized as stage 4 were "disguised" as social threads. For example, one thread opens with: "Ok, so [group member] did a great job on the presentation, which one of you brave souls would like to be the speaker and present it to the class?" While this thread begins with emotional support and encouragement directed toward a specific member, the speaker takes on a leadership role when she requests volunteers for the next part of the assignment. This camouflaging could be a product of the social setting of Facebook where commands might be better received if disguised as social. It might also suggest that *identification* (also the name of stage 2) with other members of the group is an important step in encouraging the *involvement* of step 4. Perhaps this, too, explains why four survey respondents believed that the group had intentionally not established leaders despite there being no thread to indicate such a conversation took place. In my analysis of the threads, I could identify at least four individuals who were taking the lead on various tasks, establishing timelines, and motivating the group. But within this social media environment, it could be possible that group members perceived such contributions as friendly advice or reminders because they were masked as social threads.

Although identification with other members of the group is an important part of developing the "we" feeling necessary to construct a virtual community, I didn't really see this close identification with one another come to fruition until stage 4, when social norms began to develop. The construction of social norms within the group is a method of defining and maintaining group rules, protecting the symbolic frontier that delineates the "us" from the "other" (Gurrutxaga & Luna, 2011). An example of a social norm in a virtual community might be a rule regarding how contributions should be written. For

this group, members explicitly named two such rules: a member should create a poll when there is a question everyone must answer, and a member should use the "Like" button when someone's contribution or draft is acceptable. These seem like obvious rules because they are an inherent part of using Facebook, and the survey responses indicate that most participants considered themselves to be experienced Facebook users, yet group members still felt the need to explicitly state these rules. Perhaps members weren't envisioning Facebook in its typical uses as they engaged in collaborative learning within its digital walls for the first time. However, by establishing what might be seen as obvious rules, the group ensures the protection of such rules as part of their symbolic frontier. In other words, an outsider or newcomer to the group would not necessarily know that this is how one must construct his contributions. The fact that one survey respondent did not recognize the construction of any social norms suggests that either this person did not acknowledge the rules or simply did not understand the survey question. If the former were the case, then it is likely that this would have been represented in the discourse as other group members would enforce this student's adherence to the rule (e.g. a post would have reminded said member to create a poll in combination with a question).

Again, the construction of such rules may seem obvious to any Facebook user, but one implicit rule was not quite so obvious to the group members from the inception of the group page. The earliest threads within the group's discourse indicate that for each contribution a new thread was created. This resulted in a staggered conversation that emphasized the individual and her specific contributions rather than the group's cumulative conversation on a topic. After 15 threads, or three days, this faded out of practice for the group as they began to respond to one another under original posts, and carry on conversations that at one point reached 16 posts within a thread—and more closely resembled a Facebook conversation. One group member reported this as a norm, or rule, in the survey, writing that the group had to "organiz[e] comments and messages to reduce clutter." Again, traditional uses of Facebook were less of a factor as members came into the group for the first time. Contributions focused on the individual, and as the group established and adapted to rules for contributions their discourse reflects a greater sense of comfort with using the medium for knowledge-sharing purposes. In many ways, the construction, adherence, and maintenance of norms for contributions better reflect their cohesion as a group than does their gradual movement through the stages of virtual community.

Discussion

The stages of virtual community outlined by Salmon (2002) and Waltonen et al. (2008) concisely represent the experiences of a group collaborating at a distance, but my findings suggest that some additional steps within those stages must be represented as well. For example, "othering" and "social norming" might be added to stage 4 to indicate the depth of the group's co-identity with one another as they work toward a stronger sense of camaraderie. This would be an important perquisite for establishing the group cohesion necessary in an environment where the knowledge construction of stage 5 can effectively take place (Haythornthwaite, 2002). Indeed, the ways in which members

design and share their contributions (and how that adheres to the group's social norms) should be considered in addition to content in order to better understand how well a group is functioning as a community. Although this micro study only scratches the surface of what we might find when we dig deeply into how virtual communities construct a group identity, further research into the rhetorical process of co-identification is needed to better understand how it affects virtual community development.

Movement through the stages of virtual community appears to be recursive and better represented through assignments and activities than the duration or pace of the course. The numbering system used by the stages (1-5) represents the depth of participation in the construction of knowledge in any communication rather than a progressive improvement over time. In the study, each stage 5 spike occurs shortly before a major assignment (paper or presentation) is due. Meanwhile, valleys tend to accompany assignments of lower-stakes, such as the bi-weekly meeting minutes. This confirms Salmon's (2002) theory that assignments must accommodate the gradual movement through the virtual community development process; however, these findings also show that it is possible to achieve stage 5 interaction early on, at least among students familiar with the medium of collaboration. Because my findings could be somewhat skewed due to the group's previous experience with Facebook, familiarity with one another, and/or experience as a distance student, distance educators shouldn't necessarily expect to see stage 5 too early in the semester. Any course should still accommodate the time needed to establish trust and social norms within a group. To that end, groups should be given several weeks to establish a rapport (in this case, 13 weeks), which will give them the time they need to decide whether leaders are needed, rules are secured, and there is still time left to be friends.

The use of Facebook could be taken as a blessing or a curse, a pro or a con, depending on how the data is viewed. Students clearly engage in all stages of the community-building process, with an expected majority of the contributions being introductory. But would a group using a course management system or a synchronous media be more likely to engage in the construction of knowledge that takes place in stage 5? Prior research suggests that off-topic threads, called cyber-play (Waltonen-Moore, et al., 2008), are necessary for a successful community, thus Facebook could provide the transparency necessary to encourage students to make friends with their group members and get to know one another outside of the context of the class work. Studies that compare group discourse in other media could further illuminate this discussion.

The scope of this project is small, and I am both the teacher of these students and the advisor of this distance program. If anything, I am seeking answers, not more questions. However, this snippet of research indicates that we still don't fully understand how virtual communities form, and questions remain about how best to facilitate students' construction of virtual COPs within distance learning settings. This study finds that assignments and activities may have the greatest impact on community development and social construction of knowledge, and, though time is still an important factor, experience and comfort with the environment where collaboration occurs may also be of greater importance. Studies larger in scope will be necessary to confirm these findings and to

continue seeking the most effective methods for developing virtual communities of practice in distance learning.

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Appendix: Survey

1. Before this class, did you have experience with Facebook?

☒ A lot of experience

☒ Some experience

☒ A little experience

☒ No experience

2. How often in the last month have you collaborated on class work with your group?

☒ Not at all

☒ 1 to 2 times

☒ 3 to 5 times

☒ More than 5 times

3. How often in the last month have you received or given information or advice about class work with your group?

☒ Not at all

☒ 1 to 2 times

☒ 3 to 5 times

☒ More than 5 times

4. How often in the last month have you socialized work with your group?

☒ Not at all

☒ 1 to 2 times

☒ 3 to 5 times

☒ More than 5 times

5. How often in the last month have you exchanged emotional support (described as support during a minor or major upset) with your group?

☒ Not at all

☒ 1 or 2 times

☒ 3 to 5 times

☒ More than 5 times

6. Do you feel your group had the time to grow/establish leader(s)?

☒ Yes, our group established a group leader(s) early on

☒ Yes, our group eventually established a group leader(s)

☒ No, our group did not have the time to establish a group leader

☒ No, our group decided not to have a leader, but time was not a factor in that decision

7. Do you feel your group had the time to establish “social norms” (described as implicit or explicit rules for group participation and contributions)?

☒ Yes, we immediately established "social norms" for our group

☒ Yes, we eventually established "social norms" for our group

☒ No, our group did not have the time to establish "social norms"

☒ No, our group decided not to establish "social norms" but time was not a factor in that decision

8. Can you provide an example of a “social norm” your group established? If your group did not establish or imply any social norms, move on to the next question.

9. Do you feel as though your group assimilated into the “dominate local culture” (the distance class as a whole)?

☒ Yes, our group is just a subset of the class as a whole

☒ No, our group is set apart from the class as a whole

☒ Unsure