Chapter II
The Emergence of Social Presence in Learning Communities

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ABSTRACT

The discussions presented herein emerged from two empirical studies in progress: "Online Learning Communities in the Realm of Complexity" and "The Complexity of Learning Environments" in the Graduate Program in Applied Linguistics at Universidade Federal de Minas Gerais, Brazil. One of the major pillars of both studies centers around Complexity Theory. Initially arising from the natural sciences, Complexity Theory has been gaining ground in the comprehension of human and social sciences. This chapter presents some ideas regarding the role of social presence in both blended and online learning environments, in line with the Community of Inquiry Framework (Garrison, Anderson, & Archer, 2000). Moreover, the authors hope to contribute to a better understanding of patterns that emerge from social interactions as well as of the ideas embedded in learning communities as complex systems.

INTRODUCTION

The Community of Inquiry, as reported by Garrison et al. (2000) and Rourke, Anderson, Garrison, and Archer (2004), who provide a detailed report of social presence, sets the stage for this chapter to discuss the emergence of social presence in blended and online learning communities in asynchronous medium.

A great number of studies dedicated to the investigation of social presence, in the terms of the Community of Inquiry, focused mainly

on quantitative methodology to interpret social expressions in a qualitative manner (Heckman & Annabi, 2002; Rourke & Anderson, 2002; Rourke et al., 2004). Considering these discussions, our chapter presents a complementary contribution that aims to analyze, in the light of complexity, the content of some messages exchanged in blended and online learning communities. By qualitatively analyzing the manifestation of social presence in this setting, we attempt to show possible patterns that may arise.

COMPLEXITY AND APPLIED LINGUISTICS: TRANSDICIPLINARY DIALOGS

At first glance, complexity is a phenomenon that encompasses a great quantity of interactions and interference among its agents. For Morin (1990), complexity effectively includes the interweaving of events, actions, interactions, retroactions, de-terminations, and random events that constitute our world, full of phenomena.

Complexity has its place in science due to research that has attempted to explain questions which challenge all conventional categories (Waldrop, 1992). Davis and Sumara (2006, p. ix) argue that "complexity thinking has captured the attention of many researchers whose studies reach across traditional boundaries." Examples of phenomena under investigation in the education arena include:

- How do social collectives work? The assumption that the actions and potentialities of social groups are sums of individual capacities has been challenged as it is becoming more evident that collectives can exceed the summed capacity of their members. What might this mean for classrooms, school boards, communities, and so on?
- What is the role of emergent technologies in shaping personalities and possibilities?

Children are able to integrate the latest technologies into their existences. What might this mean for formal education, in terms of the pragmatic activity and with regard to common understandings of the purposes of schooling?

In this direction, Complexity Theory in its transdisciplinary nature can assist in better understanding the events that take place in blended and online learning environments.

A complex system is dynamic, non-linear, open, and presents emergent properties. Moreover, this type of system is capable of adapting, which leads to self-organization, and ultimately to the emergence of new patterns and behaviors (Holland, 1997). An adaptive complex system is made up of agents who interact dynamically and adapt with one another as well as with the environment, as they seek mutual accommodation to optimize the benefits that will ensure their survival.

An ever-increasing number of articles over the past years have sought to analyze the second language acquisition process, as well as the language learning classroom in general, in the light of chaos and complexity theories (Cameron, 1999, 2004; Larsen-Freeman, 1997, 2000, 2002, 2006; Paiva, 2002, 2005a, 2006a, 2006b; Parreiras, 2005).

Although other works had already reflected on the implications of chaos and complexity on teaching and language learning (Bowers, 1990; Connor-Linton, 1995; Lewis, 1993; Van Lier, 1996), it was Larsen-Freeman (1997) who brought these theories to the forefront of Applied Linguistics.

In her article, Larsen-Freeman (1997) draws attention to the many similarities between complex systems found in nature and second language acquisition. One of the implications of this perspective, she writes, is that it discourages reductionist explanations of teaching events and language learning. In discussing issues relative to inter-language, individual differences, and the effects of instruction, Larsen-Freeman (1997)

contends that in non-linear systems, such as second language learning, the behavior of the whole emerges from the interactions of the parts. Thus, by studying the parts in isolation, one by one, we will merely be discussing each part as opposed to the manner in which the parts interact.

After the publication of Larsen-Freeman's work, several papers have reflected upon the implications of complexity in understanding the relations between language learning and teaching. In Brazil, the first to study complexity in Applied Linguistics was Paiva (2002), who sought to understand the process of foreign language learning as a complex system. This perspective would be further developed in her later works (Paiva, 2004, 2005, 2006). In this same manner, Kramsch (2002) and van Lier (2004), using the "ecology" metaphor, sought to re-think teaching and learning through complexity.

In 2006, the journal *Applied Linguistics* dedicated an entire special edition to Complexity Theory's contributions to Applied Linguistics, demonstrating this theory's role as a system of interpretation for studies seeking a broader comprehension of the factors involved in the second language learning process.

The basic notions of Complexity Theory will be taken as a viewpoint to understand the role of social presence in investigating online and blended communities, especially as reported by Garrison et al. (2000) and Rouke et al. (2004).

ONLINE AND BLENDED LEARNING COMMUNITIES AS COMPLEX SYSTEMS

Technology as a mediating resource for the construction of shared[1] knowledge is stressed by Lévy (1993), who contends that cyberspace, unlike classic media, introduces an *all to all* type of interaction, where participants can be both senders and recipients, thus leading to a collective intelligence.

In this light, Palloff and Pratt (1999, p. 5) argue that distance learning is invariably active: "the keys to the learning process are the interactions among students themselves, the interactions between faculty and students and the collaboration in learning that result from these interactions."

Computer-mediated communication (CMC), particularly computer conferencing, has become a versatile medium for the delivery of both distributed and on-campus education. One such advantage is that text-based communication offers opportunities for reflection in terms of the Community of Inquiry (Garrison et al., 2000).

The creation of learning communities is one of the most debated pedagogical interventions used by educators and researchers to contemplate philosophical change related to knowledge construction. This line of thinking suggests that we construct and maintain knowledge through negotiation and not merely by examining the world. Other key aspects embedded in learning communities are those involving interaction, the relationships of reciprocity, and collaboration, essential components in the process of constructing shared knowledge (Cross, 1998; Wenger, 1998). These precepts of learning communities align themselves with the assumptions found in the literature regarding online learning communities. Joint enterprise,[2] the relationships of reciprocity, and the sharing of common purposes, vital aspects if a learning community is to function productively, have also been identified by Rogers (2000) in online dialogs.

According to Harasim, Teles, Turroff, and Hitz (2005), the words 'community' and 'communication' stem from the same root, 'comunicare', which means 'to share'. The authors emphasize that people are naturally attracted by the media, sources of communication, and community formation. Paiva (2006a) adds that technological resources provide new opportunities and challenges for the learning process such as collaborative instructional projects, which boost the collective intelligence.

Like online learning communities, blended learning communities have arisen to combine different instructional modalities. The concept of blended learning, as explained by Graham, Allen, and Ure (2003), refers to combining instructional modalities (or delivery media), combining instructional methods, and combining online and face-to-face instruction. In this chapter, the term 'blended learning' will be used to refer to educational experiences which combine face-to-face conversation classes with online classes, thus reducing the time spent inside a classroom. This interaction seeks to maximize the potential of both environments.

Both blended learning and online learning are imbued with elements that are common to those found in the notions of complexity. The life of a learning community, like other complex systems, is sustained by the interactions among its agents as well as by the relation of interdependence that emerges from these interactions. Moreover, learning communities are open and sensitive to feedback, and are constantly exchanging energy (information, input) with other systems.

Other properties of the systems such as redundancy[3] and diversity, as pointed out by Davis and Sumara (2006), are also described in the literature on learning communities. The sharing of responsibility and the relation of reciprocity, as described by Wenger (1998) and Cross (1998), may serve to illustrate instances of redundancy in such pedagogical environments, be they face-to-face, blended, or online. Respect for diversity, on the other hand, is considered by Wenger (1998) to be a crucial element within a learning community, as it is by way of accepting new ideas and embracing the changes and challenges brought on by different perspectives that a community will develop and learn. Literature on complexity thus can trigger relevant insight into understanding online and blended learning communities alike.

THE COMMUNITY OF INQUIRY MODEL: SOCIAL PRESENCE

The increasing interest on the part of higher education institutions in computer conferencing led Garrison et al. (2000) to propose the Community of Inquiry framework. Assuming that within this community learning takes place through the interaction of the three core elements—*cognitive presence, teaching presence,* and *social presence* the Community of Inquiry framework, inspired by Dewey (1933), attempts to serve as a tool to investigate the quality of the learning process in text-based environments.

In Garrison et al.'s (2000, p. 4) terms, *cognitive presence* is defined as "the extent to which the participants in any particular configuration of a community of inquiry are able to construct meaning through sustained communication." The second component, *teaching presence,* consists of two general functions in the educational experience: (1) designing, usually performed by a teacher, and (2) facilitating, a function shared by the teacher and the participants. The third element, *social presence,* is defined as "the ability of learners to project themselves socially and emotionally in a community of inquiry." Although this definition may embrace the affective and social aspects of social presence, it lacks the common purpose and cohesive aspects imbued in the notion of a learning community. For this reason, we adopted the expanded definition proposed by Garrison (2006, p. 2), for whom social presence is "the ability to project one's self and establish purposeful relationships." The main function of social presence in Garrison et al. (2000) is to support cognitive objectives through its ability to instigate, sustain, and support critical thinking within a community of learners.

As Rourke et al. (2004) argue, communication theorists seem to agree that setting the atmosphere for discussion is an important element in all modes of teaching and learning based on peer

collaboration. Based on these issues, the discussions regarding blended and online collaborative experiences presented herein will focus on the aspects that appear to promote the emergence of social presence.

The longtime attempt to understand human social interactions was set in motion with the development of modalities of mediated technology. In conversational analysis, reports from Schegloff and others (Sacks, Schegloff, & Jefferson, 1974; Schegloff, 1968; 1973; Schegloff, Jefferson, & Sacks 1977) sought to understand the nature of telephone and face-to-face conversations. Rourke et al. (2004) cite a variety of reports in communication theory which studied a number of machines, including facsimile machines, voicemail, and audio-teleconferencing in organizational settings, through the concept of "immediacy" from Mehrabian (1969). This concept, developed to analyze face-to-face interaction, refers to "those communication behaviors that enhance closeness to and nonverbal interaction with another" (p. 203). These behaviors involve nonverbal channels, such as facial expressions, body movements, and eye contact, which lead to more effective and more immediate interactions among the interlocutors.

Rourke et al. (2004) examine many early works that argued that the critical difference between face-to-face communication and computer-mediated communication was the absence of social context cues. According to Rourke et al. (2004), however, recent revisions of social presence question to what extent these results from previous studies can be generalized to all media and to all their applications.

One difference between face-to-face contexts and online contexts, highlighted by Garrison (2006, p. 27), is that "communication for social presence in an online context is less frequent and more deliberate and intentional compared to a face-to-face context where physical presence more naturally stimulates expressions of social presence."

Garrison further points out that an online experience does offer opportunities for reflection in a manner not at all possible in face-to-face environments, which require verbal agility, spontaneity, and self-confidence to address a group. Thus, an online learning environment reflects a "group-centered" pattern of interaction as opposed to an "authority-centered" one in a face-to-face environment. Moreover, there is a greater tendency to lean on the commentaries of others in online environments as compared to the turn-taking dynamics in face-to-face environments. In this manner, according to Garrison (2006, p. 25), there is evidence indicating that "online learning may in fact have an advantage in supporting collaboration and creating a sense of community."

Rourke et al. (2004), in one of the key works on assessing social presence in computer conferencing, propose three broad categories of communicative responses: *affective responses, interactive responses,* and *cohesive responses.* These categories, although relabeled to better reflect the nature of the emergent indicators defined by the authors, correspond directly to Garrison et al.'s (2000) original categories. In this chapter, the term *dimension,* instead of *responses,* is preferred as the events under investigation involve more than simple responses.

The affective dimension involves personal expressions of emotion, feelings, beliefs, and values, and includes indicators such as *expressions of emotion, use of humor,* and *self-disclosure.* The interactive dimension includes communication behaviors that provide evidence that others are present, such as agreement/disagreement, approval, and referencing of previous messages, as well as involves indicators such as: *continuing a thread, quoting from others' messages, asking questions, complimenting,* and *expressing appreciation.* The cohesion present here encompasses communication behaviors that build and sustain a sense of group commitment, such as *greetings and salutations* and *group or personal reference.*

The interweaving of events, actions, and in-

teractions in the notions of complex systems is present in the interrelationship of social, cognitive, and teaching presences in a Community of Inquiry (Garrison et al., 2000). Although the categories and indicators suggested in the Community of Inquiry model are in a certain way presented in a static and non-realistic manner, when we consider, for example, that the selection of text segments used to illustrate the indicators in Rourke et al. (2004) is fabricated, the ideas embedded in this model appear to signal the presence of agents (learners, cultural artifacts, contexts), offering possibilities to identify several qualities such as dynamism, self-organization, emergence, and so on, which are common to complex systems.

The next part of this chapter will present an overview of classic and contemporary thought with the aim of promoting a better understanding of the core ideas of complexity.

CONTEXTUAL ISSUES

The discussion presented herein has emerged from the analysis of two distinct studies: "Online Learning Communities in the Realm of Complexity" and "The Complexity of Learning Environments."

The first study discusses the main characteristics and functions of online learning communities as well as the emergence of social presence, teaching presence, and cognitive presence in terms of Communities of Inquiry (Garrison et al., 2000). This study's core analysis focused on the interaction of 50 undergraduate students who participated in a 20-week course for pre-service teachers at the School of Languages and Literatures, Universidade Federal de Minas Gerais, in the first semester of 2004. This course involved theoretical and practical issues of teaching and learning a second language. These students were divided into small groups of three to five participants and interacted in an online environment without the direct intervention of the teacher.

The second study, a longitudinal ethnographic work, discusses the content of the interactions of 08 undergraduate students in English as a Foreign Language (EFL) academic writing course at the School of Languages and Literatures, Universidade Federal de Minas Gerais, during the second semester of 2004. This study was designed in a blended format so as to give students the opportunity to interact both online and face-to-face, and thus focuses on learner interaction and collaboration in peer-review activities in both face-to-face and online asynchronous classes. Rather than directly comparing the learning environments, or attempting to discover which is more effective, this research focuses both on their possibilities and constraints, as well as on the value of their combination.

In keeping with the perspectives of this chapter, a special inquiry was formulated by choosing two distinct scenes: one related to blended learning and the other related to online learning.

Regarding the online experience, the corpus of UFMGPRAT English 1, one of the subcommunities investigated in the study "Online Learning Communities in the Realm of Complexity" was chosen. Throughout the course, participants made use of a discussion list to carry out the tasks assigned in the teaching practice course. For each task, the instructional design involved: (1) posting an individual contribution to the discussion list, (2) discussing these contributions, and (3) posting a collective contribution to a forum for feedback from teachers and members of other subcommunities.

In the second study, activities alternated between face-to-face and online classes. Face-to-face classes entailed reading and discussing theory as well as presenting seminars. The online classes were conducted in an electronic forum where texts produced by students were posted. Also present here was a discussion list via e-mail intended to resolve problems and doubts that would inevitably arise between one face-to-face encounter and another. For the sake of analysis, the data from

this study's online and face-to-face experiences is presented separately. Enlightened by complexity theory, this analysis considers blended learning as a unit, as all events occurring within both online and face to face is intimately interrelated.

FINDINGS

This section will be dedicated to pinpointing evidence of the affective, interactive, and cohesive dimensions as well as patterns that may emerge with the support of social presence.

Affective Dimension

Regarding the exclusively online experience of the UFMGPRAT English 1 subcommunity, it can be observed that emotions, feelings, and humor seem to be expressed emphatically, as can be found in excerpts 1 and 2. Any divergence that could otherwise have been resolved by means of looks, tone of voice, or any other resource typical of a face-to-face interaction tends to be expressed textually:

(1)
Lisa: *...Gee, sorry if I offended ya. Didn't mean to say that all your sentences were bad. On the contrary! What I meant was that we had (in all) a lot of sentences and we would have to be more selective because if we flood the students with visual aids we may end up not getting the result expected.*

As I said before, when I answer e-mails quickly (most of the time, unfortunately) I end up simplifying the text and it gets a tad too forward. Please don't get me wrong. I'm really enjoying working with you guys!

Expressions of humor and self-disclosure are also constant in the interactions observed in the UFMGPRAT English 1, as illustrated in 2 and 3:

(2)
Ellen: *I am a bit stunned...I got home from college, wrote, sent and...The msn disappeared...I couldn't believe it...I almost cried.* (original text in Portuguese)

(3)
Ellen: *I am going to have to punish you... (laughing).* (original text in Portuguese)

Concerning blended learning, expressions of emotion, feelings, and humor can also be clearly observed in the participant speech of this community.

Excerpts 4 and 5 illustrate the presence of the affective dimension, especially expressions of emotion in the face-to-face experience. In excerpt 4, for example, the emotion is expressed not only linguistically, but also non-linguistically, through pauses and laughter in short statements, which are typical of face-to-face conversations.

The teacher's manifestation upon facing a student's difficulty in performing one of the tasks proposed by the course is immediate, which draws direct correlation to the concept of Mehrabian's (1969) "immediacy," which contemplates communicative behavior related to the specific proximity of interaction possibilities in the face-to-face experience:

(4)
Nathalie: *Ana, I'm in trouble! I don't know how to do it.*
Ana: *You are not, Nathalie!*
Nathalie: *Yes!*
Ana: *I think you're...*
Nathalie: *I don't know.*
Ana: *I think you're in the right way.*
(Laughter)
Ana: *I think you're in the right way. Write it on the board please.*

(5)

Chris: *People are trying to convince me not to talk about (laughs) things that I want to talk about.*

Expressions of emotion can also be observed in excerpts 6 and 7 in the difficulties the students encounter in performing the tasks. In both cases, non-linguistic elements can be observed, such as pauses and laughter, which aid in the expression of emotion:

(6)

Chris: *We are supposed to continue mine because this is my best. But I'm not going to talk about drama (laughter) ah please help me! How can I do this thesis statement? I'm going crazy* (laughter).

The interactions observed in the online experience in blended mode do not demonstrate the marked affective dimension seen in the face-to-face experience. Yet, due to the absence of certain non-verbal resources typical of a face-to-face interaction, the affective dimension tends to be more linguistically marked, which may indicate that this dimension is more marked in text-based online interactions. This can be observed in excerpts 7 and 8 when one student writes the teacher an e-mail about her difficulty in drafting a composition:

(7)

Amanda: *I am in doubt about how to do my composition. I have surfed the whole Net and can't find anything. Please, give me some help.* (original text in Portuguese)

(8)

Ana: *Amanda I answered your e-mail but it returned to me as undelivered mail. So, I'm sending it to you in the text factory. I hope it can still help you.*

It is interesting to note that this message was sent to the teacher's private e-mail account and not to the discussion list as shown in excerpt 8 sent by the teacher to the discussion list. This event seems to show that, in affective terms, the students preferred to interact directly with the teacher since the proposal of the discussion list, in its course design, had the objective of offering opportunities to resolve problems regarding the completion of tasks.

Interactive Dimension

The core of the interactive dimension is related to the evidence that the other is involved in the common principles of the community. In this manner, indicators, such as using the reply feature to post messages, quoting directly from the conference transcript and referring explicitly to the content of others' messages, are all types of interactive responses in CMC (Rourke et al., 2004).
Of the 189 messages exchanged by the PRATUFMG English 1 subcommunity, 55 present these indicators, mainly referring to the content of others' messages and the reply feature to post messages.

Evidence of complementing and expressing appreciation, indicators that communication is being reinforced in a text-based medium, seem to play a key role in the process of integration in the aforementioned community. Upon demonstrating appreciation for the work of their colleagues, participants of the community express their interest, engagement, reciprocity, and commitment to the proposals of the groups, as illustrated in excerpts 9 and 10:

(9)

Ellen: *Lisa and Julia, congratulations, your texts are very good and I'm sure they're gonna be useful. I totally agree with what you wrote.*

(10)

Julia: *All the sites are interesting (some I knew others I just now visited) I thought the bloglesworld was great and I suggest it be on the list.* (original text in Portuguese)

Two other indicators—expression of agreement and asking questions—emphasized by Rourke et al. (2004) were also observed in the messages from community participants. In addition to the expressions of agreement, it could also be observed that expressions of divergence can instigate, sustain, and give support to critical thinking within the community, one of the major goals of the collaborative experience.

In excerpt 11, for example, one community participant manifests not only agreement but also intention to produce knowledge through her classmate's suggestion:

(11)

I agree with you about treating the cultural transversal plurality theme suggested by Lisa. Okay, I'm going to base my part on it. (original text in Portuguese)

Likewise, the manifestations of divergence, although categorized as indicators of cognitive presence in the model formulated by Garrison et al. (2000), express displeasure and, as in expressions of agreement, may give rise to the development of critical thinking.

In excerpt 12, one participant reacts to a long list of expressions suggested by her classmates. These phrases, part of the completion of one of the group tasks, served to facilitate the interaction among the students in the classroom:

(12)

I think that we have to make a selection of the phrases from the whole because we can't bombard the students with phrases, right? (original text in Portuguese)

In blended learning, it can be observed that, in the face-to-face environment, the interactive dimension is also manifested in a non-linguistic form. The "evidence that the other is attending," for example, is perceived through looks, gestures, and so forth. The elements of the interactive dimension that most commonly appear linguistically in this context are *asking questions* and *expressing agreement,* as we can see at the end of excerpt 12 as well as in excerpts 13 and 14.

In excerpt 13 the student expresses her agreement with the ideas from a classmate, while in excerpt 14 Nathalie agrees with a commentary from the professor regarding her text:

(13)

Chris: *Ok Ok I agree with you.*

(14)

Nathalie: *Yeah it's kind of confuse…*

In excerpts 15 and 16, we can see examples of questions that appear frequently in the interactive dimension of the face-to-face classroom:

(15)

Angélica: *It's a good idea?*

(16)

Angélica: *How can I improve?*

In the online experience, the interactive dimension is much more linguistically present than in the face-to-face experience. One common indicator in this context was *complimenting and expressing appreciation,* as exemplified in excerpts 17 and 18:

(17)

Your text is much better now. Congratulations!

(18)

Angélica, your text is very good with just few mistakes. Congratulations!!

In this context, which involved the peer editing of their texts, the students frequently wrote commentaries complimenting their colleagues or highlighting the positive aspects of the text before making any corrections or giving any sort of suggestion.

Cohesive Dimension

As pointed out by Garrison et al. (2000) and Rourke et al. (2004), the cohesive expression can be exemplified by activities that construct, develop, and sustain group behavior all at the same time. It can be observed that the vocative cases were constant through the entire life of the PRATUFMG English-1 subcommunity.

In addition, there were a number of moments in which the community participants addressed the group using pronouns that refer to the collective, such as "we," "our," and "us," as well as the use of the verb in the third-person plural in messages written in Portuguese. Another indicator of the group cohesion could be identified through communication using phatic expressions and salutation. Many times the community participants spoke to the group using expressions such as "Hi everybody" or "Hi all.' Also observed was "Hi, Powerpuff Girls," referring to the cartoon "The Powerpuff Girls," "saving the world before bedtime." It is interesting to note that this nickname was not defined in the interactions that occurred in the course discussion forum, demonstrating an intimate identity within the subcommunity. In addition to this nickname, the participants of the UFMGPRAT English-1 group constantly search for motivational and cohesive expressions in the language, which can be considered a new indicator of social presence pointing toward the development of group cohesion. These manifestations can be observed in examples 19, 20, and 21 (original texts were in Portuguese):

(19)

Lisa: *United we stand!!!!*

(20)

Ellen: *A big hug, all for one and one for all!!!! Go girls.*

(21)

Lisa: *Together we will overcome the difficulties. I hope so...I'm going to continue to try to resolve these little problems and I hope that they will not hurt us because we've worked hard, right?*

This attachment to group cohesion can be interpreted as a need for the group to 'stand on its own two feet' until the end of the course. This fact seems to be related to the pedagogical proposal of the course which established the "own life" of each subcommunity—that is, autonomous communities without the direct intervention of the teacher.

The social expressions that emerged from the participants' interactions in the aforementioned asynchronous learning community seem to offer collaboration and support to the emergence of patterns such as the negotiation of meaning, the overcoming of conflicts, and the development of group cohesion. One of the major joint enterprises that emerged from these interactions within UFMGPRAT English-1 is distributed leadership. The community participants chose to alternate leaders so that each member could participate equally in group activities. Thus, the role of the management of a learning community, many times taken on by the teacher, is distributed among the community participants. Although UFMGPRAT English-1 was the subcommunity investigated for the discussions debated in this chapter, it is important to emphasize that the emergence of distributed leadership occurred in most subcommunities from the course for pre-service teachers, original corpus for the study "Online Learning Communities in the Realm of Complexity."

In blended learning, the cohesive dimension is not as linguistically marked as it is in the face-to-face experience. Vocative cases are inevitably used, as can be seen in excerpt 22:

(22)

Ana, in my essay I used this.

Nevertheless, this use of vocative cases occurred only when attempting to call the attention of the other since the face-to-face conversation dynamics offered diverse nonverbal resources to indicate to whom certain comments were directed.

One very common element used was to address or refer to the group using inclusive pronouns, as shown in excerpts 23 and 24:

(23)

Angélica: *And the name (opens the folder and begins to flip through the pages) I bring it for you...*
Ana: *For us* (laughter).

(24)

Ana: *We've seen the classification essay right? We've seen the process analysis essay...*

In the online experience, even in the electronic forum where the tasks involved only the edition of texts from classmates, the students commonly used the vocative cases, as demonstrated in excerpts 25 and 26:

(25)

Angélica, these are some suggestions that might improve your text.

(26)

Amanda, your text is very good, but I think the use of "that is the way it is a valid experience" in the second paragraph is not very clear, maybe you could change the words.

DISCUSSION

Both learning communities investigated, blended and online, contain characteristics commonly found in adaptive complex systems. These characteristics can be observed in the corpus investigated in this chapter. The results presented herein demonstrate that the communities are in a constant movement of state—that is, dynamicity, which can be illustrated through the events of the aforementioned divergence and convergence.

Emergence can be considered the most preponderant aspect in the investigated corpus. Distinct patterns of leadership arise within the studied contexts. In blended learning, leadership centered on the teacher appears in face-to-face classes. Likewise, as reported in a number of studies regarding classroom interaction (van Lier, 1988; Tsui, 1995; Chaudron, 1988; Dalacorte, 1999), the classroom interactive dynamics are, essentially, centered on the teacher who, in general, controls the turn-taking dynamics.

In online activities in the blended experience, there arises a more decentralized leadership. In this context, the presence and coordination of the activities by the teacher occurs, but not at the same intensity as in face-to-face classes. These findings are in accordance with studies that indicate a trend toward a greater participation of learners in online classes (Sullivan & Pratt, 1996; Warschauer, 1996; Paiva, 1999; Fernández-García & Arbelaiz, 2003). In the online community where there was no direct intervention from the teacher, a pattern of distributed leadership emerged.

It is important to emphasize that the aforementioned management patterns were supported by social expressions: affective, interactive, and cohesive. These expressions, in addition to being interrelated, as defended by Rourke et al. (2004), manifest themselves in an interdependent manner, and are based on a constant interweaving in an attempt to comply with the diverse common purposes of both blended and online learning communities.

Another emerging aspect is the fact that social presence is more linguistically apparent in online interactions than in face-to-face interactions. In face-to-face interactions, diverse non-verbal paths, such as looks, facial expressions, and gestures, play key roles in marking social presence or "immediacy," as defined by Mehrabian (1969). These results are aligned with previous studies (Davis & Thiede, 2000; Martins, 2005, 2006) which indicate that, due to restrictions in contextualization (Gumperz, 1982), common in face-to-face interactions, expressions of emotion and politeness tend to appear more linguistically marked.

The results also point out that the expressions of affection, expressions that involve efforts in interactions, and interactions that address the collective, aid in the development process of group cohesion, thus promoting the collaborative experience and opportunities for the construction of shared knowledge. In this sense, the discussions based on the data presented in this chapter follow in line with the findings from Garrison et al. (2000) and Rourke et al. (2004), which indicate that social presence may trigger and sustain the construction of shared knowledge.

As the purpose of this discussion has been to prompt some reflection on complexity thinking and social presence, we hope that this study will serve as an incentive for future investigations in other contexts, as the discussion presented herein is based on a small sample from two distinct case studies which was specifically investigated in this chapter.

GUIDELINES FOR FUTURE RESEARCH

In this chapter we have presented some differences between the processes of socialization in online learning and blended learning. However, further inquires on this topic are still needed, especially those conducted regarding the characteristics of social presence with different learners and in different learning contexts.

Although social presence has been considered to be intrinsically interrelated with cognitive presence, as well as with teaching presence in Garrison et al.'s model, this chapter focuses on social presence only. Therefore, further studies wishing to examine the remaining components of the Community of Inquiry model in both online and blended environments are to be encouraged.

In the discussions presented in this chapter, the Community of Inquiry has been scrutinized under the notions of complexity. Considering that our focus was on emergent phenomena in both online and blended learning, research into other characteristics of complexity in learning communities is valid. The use of Complexity Theory as the foundation for the study of online learning is still quite recent, hence an open field for further investigations still exists.

CONCLUSION

Initially brought to the field of Applied Linguistics from isolated initiatives, complexity thinking has gradually established itself as a consistent epistemological basis for the understanding of contexts and events involved in teaching and language learning activities. These events, as regards the process of second language learning, much like the universe as a whole, are complex in nature.

The complex nature of phenomena has led classic scientists to establish methodological procedures that reduced the phenomena to the investigative conditions of the time. Scientific and technological advances stemming from these efforts established the reductionist view of classic science as a reliable paradigm. The emergence of another viewpoint allows us to investigate certain aspects of a phenomenon, which in many cases is not in fact contemplated within a sole paradigm.

This idea aligns with Halliday (2001) in the sense that second language teaching is too complex and multifaceted to be analyzed according to one sole perspective, be it what it may. In this light, Larsen-Freeman, (2002b) emphasizes that one of the contributions of complexity is that it enables us not only to review our concepts of teaching and learning a second language but also to perceive the underlying concepts of the more traditional paradigms.

In this focus, we share Demo's (2002) idea that knowledge and learning are considered activities that are imbued in non-linear processes, both in the process of formation and reconstruction as well as in its internal interweaving, due to the fact that they signal typically complex phenomena because they are not exhausted in logical alignments.

The discussions related to social presence in both blended and online environments presented in this chapter aim to reiterate the social nature of these types of pedagogical interventions and the potential for the use of CMC in educational practices as far as the construction of shared knowledge is concerned. The creation of blended and online learning communities must therefore be guided by a perspective that embraces instructional designs that, in turn, foster social interactions, considering that out of the issues of effectiveness, interactivity, and cohesion, there may emerge patterns such as reciprocity, commitment, as well as different patterns of negotiation of meaning (e.g., convergence and divergence) and patterns of management (e.g., decentralized and distributed leadership), elements that may trigger the process of critical thinking, one of the major goals of the collaborative experience in the education arena.

In this light, the issues herein presented enhance the value of social interactions in textual asynchronous environments and acknowledge the complex nature of blended and online learning communities. As these issues involve both theoretical issues and important practical pedagogical implications, we hope the discussion proposed in this chapter will contribute to research on e-learning methodologies for language teaching and learning as well as pinpoint issues and challenges for others to address and build upon.

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KEY TERMS

Affective Responses: This category of social presence, in terms of Community of Inquiry, involves personal expressions of emotions, use of humor, and self-disclosure.

Blended Learning: Refers to combining instructional modalities (or delivery media), combining instructional methods, and combining online and face-to-face instruction (Graham et al., 2003). This term has been used in the e-learning literature to refer specifically to educational experiences that combine face-to-face conversation classes with online classes, thus reducing the time spent inside a classroom. This interaction seeks to maximize the potential of both environments.

Cognitive Presence: Defined by Garrison et al. (2000) as "the extent to which the participants in any particular configuration of a community of inquiry are able to construct meaning through sustained communication."

Cohesive Responses: This category encompasses communication behaviors that build and sustain a sense of group commitment, such as greetings and salutations, and group or personal reference.

Interactive Responses: This category of social presence, in terms of Community of Inquiry, refers to communication behaviors that provide evidence that others are attending, such as continuing a thread, quoting from others messages, asking questions, or complimenting and expressing appreciation.

Learning Community: "…dynamic whole that emerges when a group of people share common practices, are independent, make decisions jointly, identify themselves with something larger than the sum of their individual relationships, and make long-term commitments to the well being of the group" (Shaffer & Anundsen, 1993, as cited in Palloff & Pratt, 1999).

Social Presence: Concept defined by Garrison et al. (2000) as "the ability of learners to project themselves socially and emotionally in a community of inquiry." Garrison (2006) expanded this notion, defining it as "the ability to project one's self and establish purposeful relationships."

Teaching Presence: Involves designing and facilitating the educational experience (Garrison et al., 2000).

ENDNOTES

[1] The term "shared" is used in this chapter to refer to the type of knowledge that stems from "negotiation and/or exchange" in the solution of problems.

2   Joint enterprise in this context is seen as a result of a collective process of negotiation that reflects the full complexity of mutual engagement (Wenger, 1998).

3   Redundancy in this text is used in Davis and Sumara's (2006, p. 138) terms: "In social grouping redundancies include common language, similar social status, shared responsibilities, constancy of setting and so on."