E-learning Education for Academic Literacy in Computer-Mediated Communication

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Abstract

Many educators are gravitating towards the use of learning management systems (LMSs), such as Blackboard, Daedalus Interchange, and Moodle, for managing courses and enhancing student learning. There is thus a growing need to examine second language (L2) learners' academic socialization through their participation in computer-mediated academic literacy practices. By employing a community of practice perspective, the present study was an attempt to demonstrate how learning management systems mediate L2 learners' academic discourse socialization and is closely related to issues of identities and learner agency. The study presented here contributes to the growing body of e-learning research to illustrate and explain the complex and dynamic ways that non-native novice students negotiated their academic participation in their graduate class.

Keywords: Learning management systems, Blackboard, E-learning, Computer-mediated communication

1. Introduction

In recent years, information technology (IT) has made a great transformation in the content and methods of education and even in the new world of e-Business [1]. Central to the entire field of e-learning is the concept of “a ubiquitous educational environment where anyone can access educational information beyond traditional time and space limitations” [2]. Likewise, a wider range of e-learning systems have been created and employed in the field of higher education to enhance learning and use of collaboration skills that learners should acquire in Computer Supported Collaborative Learning (CSCL) [3]. Learning management systems are increasingly becoming a part of the classroom ecology, by which is meant interactions between teachers, students, pedagogical and assessment practices, and tools and techniques, as mediated by the underlying premises of the artifacts, and the knowledge, attitudes, perceptions, and beliefs of the social agents [4].

As Jee and Kim [5] put it, the popular acceptance of the Internet brought about the rapid development of the computer-mediated communication (CMC). Likewise, tele-learning that is viewed as a great source for educators and trainers who desire to teach online courses via the Internet shows many possibilities in designing, implementing, and managing Internet technology in learner evaluation [6]. On another dimension, Smart Home technology initiated introducing the concept of networking devise and equipment even in the house [7]. According to Robles and Kim [7], Smart Home is the integration of technology and services though
home networking and it is an emerging area.

In line with the surge of interest in the sociocognitive and sociocultural aspects of Second Language Acquisition (SLA), social interactions are believed to be fundamental to academic discourse socialization. Particularly, the communicative power of Internet tools can stimulate new ways of teaching and learning [8]. What has been presented in the CMC literature differs fundamentally from the positivist program in higher education with its emphasis on technical rationality and nonproblematic portrayal of the knowledge to be acquired. By participating in the discursive activities of online written communications, learners are socialized into the ways of knowing and the practices of an academic life world. The main challenge for educators lies in fostering a critical perspective on academic culture among students. To develop such a perspective, students will need to be aware of the varied purposes of disciplinary knowledge, its limitations, and the bases on which its claims are made.

A crucial challenge for a classroom community is therefore to make these epistemological features an explicit focus of discourse and hence to familiarize learners with a critical perspective on academic ways of knowing. A CSCL environment could provide advanced support for a distributed process of inquiry [3]. And it could facilitate the evolution of a learning community’s knowledge as well as the transformation of the participants’ epistemic stances through a socially distributed process of inquiry [3]. Hence it seems possible to speculate that adaptation of cognitive practices and appropriation of more advanced processes of inquiry can be derived from the creation of online learning communities that mediate all stages of the process of inquiry, not just the end products.

There is thus a growing need to examine L2 learners' academic discourse socialization through their participation in computer-mediated academic literacy practices. By employing a community of practice perspective [9], this study was an attempt to demonstrate how CMC space mediates L2 learners' academic discourse socialization and is closely related to issues of identities and agency.

2. Theoretical Background

2.1. Legitimate Peripheral Participation in a Community of Practice

To conceptualize academic discourse socialization for graduate students, it is useful to turn to the construct of legitimate peripheral participation in Lave and Wenger's [9] situated learning in a community of practice (COP). With the construct of community of practice, Lave and Wenger [9] stressed that individuals learn primarily by participating in the sociocultural practices of their community rather than from a direct transmission of knowledge about the practices. Figure 1 shows the novice learners’ learning process in COP.
Figure 1. Community of Practice Model [9]

Importantly, this situated learning is characterized by what Lave and Wenger [9] call *legitimate peripheral participation* (LPP). Legitimate peripheral participation is a particular articulation of learning within a broad tradition of research and theorization in education. This tradition encompasses social, cultural, and historical views of learning. This theory regards learning as a process of increasing levels and varieties of sociocultural participation in a target community of practice. It postulates that learning occurs through “the growing use value of participation, and by newcomers’ desires to become full practitioners” [9]. The concept of *legitimate peripheral participation* looks at relations and interactions between “newcomers” and community “old-timers.” A legitimate peripheral participant is seen as a newcomer to the community of practice who participates to a limited extent in the work of experts, moving from the periphery toward the perceived center of the community of practice as the newcomer’s skill and knowledge levels increase.

Lave and Wenger’s legitimate peripheral participation provides a “decentered view of master - apprentice relations” [9] and rejects the idea of community centers and masters in favor of a model of social practice in which learners are always in multiple positions relative to an entire community. Therefore, peripherality in this framework does not simply mean a single core in a community, or that the role of newcomers is being placed at the edge of a larger process. The term implies that there exists heterogeneity in any community. “There are multiple, varied, more or less engaged and inclusive ways of being located in the fields of participation defined by a community” [9].

Drawing upon the notion of community of practice, this study defined academic discourse socialization as a sociocultural process by which novice learners become competent in academic ways of doing (e.g., knowing, reading, speaking, and writing) depending on their levels of participation in the activities of a given academic community. Instead of focusing on the mind of the learner as the site of production of knowledge and the acquisition of structures (linguistic, rhetorical, or otherwise), legitimate peripheral participation looks at the learner’s interaction with the lived-in world. This approach assumes, therefore, a socio-constructivist viewpoint that learning and knowledge construction do not only flow from community to learner but that the learner also plays a role in the development and growth of the community.

Although this emphasis on social practice seems to shift attention away from the learner, it induces the very opposite effect. Attending to participation in sociocultural communities, and thus viewing learning “as activity by specific people in specific circumstances” [9], encourages us to see learners as individuals, and, in so far as we focus on the social relationships through which people see themselves, as “whole persons” [9].
Lave and Wenger [9] involved the structure of the social world as an element of analysis and the discordant nature of social practice, arguing that legitimate peripheral participation is not free from a conflictual process of negotiation and transformation. As they posited, “Hegemony over resources for learning and alienation from full participation are inherent in the shaping of the legitimacy and peripherality of participation in its historical realizations” [9]. It is important for newcomers to have access to knowledge resources, and yet power relations in communities of practice can moderate access in a way to enhance or prohibit their participation.

These factors allowed for investigating the structure of an academic community in terms of how access may be given or restricted to novice ESL graduate students. This framework also permitted us to investigate the social relations between members, and the various areas of tension, conflicting or common interests, and ways of understanding that resided in the particular academic classroom community. By bringing their own unique being to a community, novices also may have the power to transform it even as they are being transformed.

The concept of legitimate peripheral participation thus offers a theoretical lens for understanding the complex and multifaceted nature of academic literacy events that occurred in e-learning systems, that is Blackboard and Daedalus Interchange Program.

The data analysis and interpretation were guided by the following research questions that were based on the theoretical framework, namely, a community of practice model: 1) What is the nature of first year L2 students’ discourse socialization as they engaged in online written discussions?; 2) How do the students exercise their agency in online written discussions?

2.2. Community and Identity in Computer-Mediated Communication

Drawing on Lave and Wenger’s [9] constructs, this study focused on how first-year graduate students’ adoption of Academic English in online writing activities was intertwined with a process of academic discourse socialization and identity construction. Thus, this study was related to descriptions of the process of socialization through which graduate students construct a community with their online peers and their identities within this community, adopting and negotiating a discourse that structures beliefs and social relations within the community. For graduate students for whom English is their L2, communicating in English in online learning environment is more than a matter of content knowledge enhancement. This means they must learn to use language to perform particular kinds of language-based practices that satisfy discipline-specific needs and are infused with the values and beliefs of the content course. Through increased opportunities for practice, they begin to adopt and negotiate new norms of use and to develop new identities within a new classroom community.

A growing body of research in CMC has shown the emergence of social and political interest groups on the Internet and the use of language within these groups to construct communal affiliations, social and cultural beliefs, identities, and relations of power. Some key themes in this research are reviewed to provide a conceptual landscape for the research questions that are addressed for exploring first-year L2 students’ academic participation in online written discussions.

In descriptions of how individuals use computer-mediated communication, researchers, practitioners, and educators have come to “realize that the way the medium is used depends largely on human needs, and the needs are the primary reason that electronic communities are formed” [10]. Palloff and Pratt [10] suggested that the Internet is not a highway but something like a place or a community where people can
meet, collaborate, and learn. Researchers of communication, linguistics, and cultural studies likewise have described the widespread use of community as a metaphor for CMC and examined the processes of its construction.

For example, Baym [11], focusing on the asynchronous communication in Usenet newsgroup discussion, noted that certain social dynamics emerge in CMC that promote a sense of community (i.e., group-specific forms of expression, social relationships, and behavioral norms). During her study, Baym posted messages and analyzed the postings on rec.arts.tv.soaps, a newsgroup devoted to the recreational discussion of daytime soap operas. Baym [11] found that members of the group shared various forms of conventional expressions. Such conventions were the codification of acronyms for the soap operas and nicknames for the soap opera characters, the expectation that newsgroup members would disclose personal details of their lives akin to the narrative devices of the soap operas, and the development of unique forms of jokes that drew attention to the hilarity and absurdity of the soap opera world.

Bays [12] emphasized the importance of textual production in creating group culture in electronic texts, through an analysis of community as frame for interaction. Bays [12] studied collectively the members of an Internet Relay Chat (IRC) group. He noted that, by portraying in words the imagined physical setting of their conversation and the behaviors of the participants that form the context of their social encounter, the IRC group constructed a sense of community associated with familiarity, sharing, and working together for the public good. For example, this group developed a kind of cookie convention in which members offer cookies to each other out of generosity and goodwill. If someone “acts aggressively” by using swear words, the group members are supposed to mete out a punishment with equally scathing comments or the threat of being “kicked off” the channel. Bays suggested that “physicality exists within the world of IRC as a frame in which the rules of interactive conduct and reality within the CMC are based” (n.p.).

As evident from the literature described above, CMC has the potential to allow the emergence of particular forms of linguistic and interactional patterns, genres, and discourses to mediate the creation of group culture and norms of behaviors.

Identity building is also regarded as part of the process of community building toward communities of practice. Brown and Duguid [13] suggested that learning is an “identity forming, social act”, and that what is needed in an information age is not more knowledge, but people to “assimilate, understand, and make sense of it”. Their suggestion applies in an electronic world that has increasingly sophisticated tools with which learners access and use information. Hence, some researchers are interested in how individuals develop alternative identities in the electronic learning environments. Invisibility is an important aspect of electronic learning communities because it fosters the transformation of identity and personal characteristics through social and cultural interactions mediated by the computer network [10, 14].

Taken as a whole, this strand of research on language use in the social world of CMC is concerned with how networked communication provides a different arena for the textual construction of collective and personal identities and how those identities are regulated by particular social beliefs and behavioral norms. For ESL graduate students who are participating in a computer-mediated academic discourse, the question arises as to what kinds of interactional norms, and collective and personal identities they will develop through situated academic literacy events. A further question of particular interest to us is how their participation in the networked academic environment is connected with their academic discourse socialization.
3. Method

3.1. The Extended Case Study

This inquiry followed the extended case study design. It sought not to generalize from the comparison of multiple cases but to use the ethnographic study of cases to extend and reconstruct theory [15]. The extended case study draws on the best theoretical assumptions in the field and reconstructs them through further research. As a collection of cases, this exploratory study aimed not to generalize from its findings but to expand and provide alternative visions of language and literacy development as academic discourse socialization, in particular, the relation of academic discursive practice to learner identity formation in computer-mediated discussions.

Case study methods adopt non-probability sampling strategies to understand and discover rather than answering “how much” or “how often” kinds of questions [15]. The common data sampling within non-probability samples is purposive sampling, which allows the researcher to discover and learn as much as possible from the case. In this context, the criteria to choose the Psychology of Learning course are clear. First, the class incorporated CMC written discussions as part of the course. Second, due to the nature of interdisciplinarity, the course attracted students from diverse academic backgrounds, which made it possible for me to follow the development of a community of practice in CMC written discussions. Third, the primary goal for the class was to encourage students to read and write “texts” for knowledge construction and meaning negotiation.

3.2. Sites and participants

This study was conducted at a large research university located in a multilingual city in southwestern United States. Reflecting the cultural richness of the city, students, including international students and recent immigrants, come from diverse cultural, linguistic, and ethnic backgrounds. Thus, the graduate course was chosen as an information-rich case for my study grounded in the logic and power of purposeful sampling [15]. Because the goal of the study was to explore first year non-native graduate students' discourse socialization processes in depth, this sampling procedure allowed for taking for an appropriate class with a specific focus. Of the 31 students enrolled in the course, 22 were female students and 9 were male students. Among those 31 students, there were 10 non-native English speakers.

3.3. Procedures

During the semester, the class met face-to-face twelve times, with eight of these meetings concluding in the computer lab synchronous chat discussions for the last 40 minutes. Software used for the synchronous online discussions was the Daedalus Interchange, real-time, synchronous computer network. The class was divided into four groups as they chose one of the topics of their interest. After logged on, the class members began the online discussions by asking for someone to start. In addition, three times replaced the face-to-face meetings with asynchronous Blackboard discussions. Figure 2 shows a screenshot of Blackboard learning system.
The students did not have to come to school as long as they could access the Internet for Blackboard discussions. Each of the online discussions was initiated with the teacher posting that reflected some issue or topic addressed by the reading assignments. The students were expected to post more than three comments within a designated time frame. For each online session, students were assigned to one of four different groups and they were expected to read and comment on only their own group’s postings. Figure 3 shows overview of grouping in online discussions. Group assignments were rotated for students to have the opportunity to communicate with different members for each discussion.

As can be seen in Figure 4 below, messages on Blackboard are arranged in threads in which those that are on the same topic are grouped together. Exchanges created over time have a persistent presence in the graphical record of the conference.
3.4. Data Collection

Multiple data collection strategies were employed in this study. The use of multiple methods allows the researcher to encompass broader issues, to solidify the new findings and give relevant explanations, and to ensure trustworthiness of naturalistic inquiry. This study incorporated classroom observations, background questionnaires, end-of-semester questionnaires, print outs of CMC texts, ethnographic in-depth interviews with the focal students and the teacher interview, copies of course-related documents, students’ self-reflective essays about online discussions, and my reflective research journal. Such incorporations have enabled me to create a “thick description” [15] of the emergent community of practice in the online space as well as to gain a rich sense of what it means to become enculturated in the new academic discourse as an alternative construct for looking at language socialization.

3.5. Data Analysis

Data analysis in this study followed a tradition in qualitative research. The analytic procedures were conceptualized in terms of the following modes: organizing the data, developing categories, themes, and patterns, testing the emergent hypotheses against the data, and searching for alternative explanations of the data.

Categories and themes were emergent from the data, and theories about settings and participants were grounded in specific experience of the research site. Inductive analysis was carried out to identify themes and analytical categories in the field notes, interview transcripts, printed CMC texts, and the students’ self-reflective essays. As the themes emerged, analytical categories were created to present an understanding of how the themes relate to the research questions. For the themes that were salient in the data, certain analytical categories were used to understand how first year non-native graduate students developed their relationships with other experienced students and how they practiced a second language in ways that were oriented toward specific academic concerns at the level of discourse. Through this inductive process, major patterns were identified in the students’ experiences of CMC writing and learning in L2 academic discourse in the graduate content course and sought to relate their CMC writing activities to their participation in the classroom community.
4. Results and Discussion

At the outset of this study, two research questions were raised to guide the study: 1) What is the nature of first year L2 students' discourse socialization as they engaged in online written discussions?; 2) How do the students exercise their agency in online written discussions?

Drawing from communities of practice perspectives, academic discourse socialization in this study was viewed as the process through which novice learners move towards being able to participate centrally and yet legitimately in their target academic communities.

4.1. Nature of discourse socialization in CMC discussions

The data suggested that students actively constructed their learning contexts, more specifically, the class Blackboard bulletin, by making personal investments in their new academic literacy experience. The findings of my study showed that discourse socialization is a complex, dynamic process of co-construction and negotiation, supporting other researchers' recently reported qualitative studies [14].

By participating in CMC writing activities as ways of a new academic class practice, the students were not simply mastering the body of content knowledge but also negotiating a sense of belonging in a new academic classroom community. Data analysis revealed three emergent themes in terms of the features of discourse socialization embedded in academic online space. Figure 4 below illustrates the process of discourse socialization that is identified in asynchronous Blackboard discussions.

![Figure 4. Main Themes Identified in Asynchronous CMC Discussions](image)

4.1.1. Theme 1. Socialization as Situated Social Identity Formation: It was observed that students constructed their social identities as relative experts or relative novices in different topic discussions. Students showed their own perspectives and preferences about a variety of intellectual values and instructional skills. The findings suggest that the participants experienced different types of positioning as a result of their interactions with individuals in their small group, and resources (e.g., reading materials and hand-outs) in the dominant academic context. Positioning is closely connected with the concept of identity. These positionings framed diverse identity formation that was adopted by participants in online discussions, and yet, they were sometimes imposed on the participants. Within each context, a student was defined or defined others through his or her positioning. As Lave and Wenger [9] characterized it, learning inherently involves constructing “identities in practice.”
Because the purpose of interacting in asynchronous Blackboard discussions lay in the creation and inculcation of knowledge of students into valued ways of knowing, thinking, and being, students' epistemic stance appeared to be particularly salient. When students were making knowledge claims regarding a certain ongoing topic, different emerging epistemic stances were evident. At times, an affective stance was made explicit, such as when participants stated their agreement or disagreement with each other, including the authors of assigned readings that were the topic of discussion.

An interesting finding that emerged from the analysis was that participants often invoked novice/expert identities by undertaking requestor-requestee identities in the midst of seeking a particular bit of knowledge and new information, further sustained by evaluating self or other's responsive performance within the situated activity.

4.1.2. Theme 2. Socialization as the Engagement into Exploratory Talk: Another theme that emerged related to academic discourse socialization was students' engagement in exploratory talk [16] through written conversation embedded in online discussions. Closely connected with exploratory talk is the concept of a joint enterprise, that is, a particular dimension of communities of practice that Lave and Wenger [9] proposed. The analysis of CMC transcripts particularly of the Blackboard discussions showed that students resorted to critical inquiry and reasoning by speculating about the causes of certain learning problems or difficulties or by predicting their future students' attitudes to certain instructional tasks during small group discussions. While they engaged critically and yet constructively with each other's questions and thoughts, they challenged and counterchallenged each other's statements and suggestions. Furthermore, an important facet of critical thinking skills includes challenging the credibility of a particular source under consideration.

4.1.3. Theme 3. Socialization as Developing Intertextual Connections: Making intertextual connections was another discourse socialization process that the students underwent during online discussions. The analysis of the CMC transcripts of Blackboard discussions showed that students made intertextual connections between their personal narratives and the key concepts and theoretical constructs that authors used in their articles. By linking authors' statements about theoretical concepts detailed in the weekly assigned readings with their real-life situations, participants engaged in metacommunication, which is a core means through which newcomers are socialized through and to professional language use.

In light of a community of practice framework [9], newcomers learn that the process of joining an expert group substantially turns on their communicative competence, that is, the ability to use and understand talk that is distinctive to their cultural group. The use of specialized lexicon in the field of learning, therefore, gave a kind of legitimacy to participants in asynchronous Blackboard discussions. A notable example was the use of “tune out,” a term that was appropriated by participants and was re-accentuated with their own expressions (e.g., phasing out, a learning strategy, an emotional stage, and an unconscious action) and evaluative tones.

4.2. Learners’ Agency in CMC Discussions

It was found that the students' agency was enacted in various ways as a result of interacting with the sociocultural, temporal, and institutional world surrounding them, in this case, other online chat participants. In light of a Community of Practice framework, the findings showed that non-native graduate students became increasingly competent in academic ways of "doing" as they participated peripherally and legitimately in the synchronous chat activity of a given academic community.
At the same time, it is important to note that participants were able to employ positive participant roles when they could decrease the distance between themselves and target classroom community norms. Furthermore, the online discussions changed the way the students conceptualized learning.

Originally, students believed that the teacher and assigned reading texts were the primary sources of knowledge, but throughout the practice of online chat, they perceived that their peers were also great resources of knowledge because they had a variety of ideas to contribute. Some students found that the variety of formats through which they interacted with their classmates pushed them to understand the material from different perspectives so that they could gain a better understanding of the applications of the course concepts to their own real-life learning and teaching situations.

The analysis of online chat transcripts thus indicated that the students showed differences and changes in their participant roles as a result of their interactions with individuals in their small group and access to knowledge resources in the dominant academic discourse. From the role of silent overhearer, the roles of respondent and agreeer developed. Access to multiple roles in simultaneous participation framework, then, provided the students access to the social construction of academic literacy knowledge. Those students who were silent in the classroom had access to literacy knowledge and the circulation of knowledge through the more open and flexible participation structures that were co-constructed in online chat.

The participation framework formed a space within which the course content knowledge that was placed on the discussion floor could be picked up by participants as they developed their written threads. In addition, this more dialogic online space provided the potential for cognition to be distributed.

5. Conclusion

In relation to recent theorizations of academic discourse socialization as a process of identity formation, the present study was an attempt to offer a way of understanding about learner formation as a dynamic process of identity negotiation alongside the evolution of a community of practice in CMC environments. The study drew on the insights of community of practice model to recognize how new students become part of a new academic classroom culture through online written communication. In addition, the study has afforded insights into the ongoing interaction of participation in the classroom. It is hoped that the findings presented in this study from multiple perspectives will help educators see the potential of CMC as a strategic domain for ever-changing academic literacy practices.

References


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