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Contradictions in a Distance Content-Based English as a Foreign Language Course: Activity Theoretical Perspective

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Contradictions in a Distance Content-Based English as a Foreign Language Course:

Activity Theoretical Perspective

by

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DEDICATION

To my wife Liliya, my son Marcel,

and my parents Mavliya and Yusup Madyarov, and

Venera and Jamil Zaydulin

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Contradictions in a Distance Content-Based English as a Foreign Language Course:
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Irshat Madyarov

ABSTRACT

This study explores six English as a foreign language students in an English content-based course of critical thinking delivered via distance at the Bahá'í Institute for Higher Education (BIHE) in Iran. Framed within cultural-historical activity theory, the study seeks to shed light on the complex nature of students' course-related activities with a particular focus on contradictions that underlie any human activity. The construct of contradictions provides a theoretical lens to understand the complex web of relationships among a number of elements in the course taking activity situated in a cultural-historical setting beset with political controversies, technological challenges, and demands of the bilingual curriculum of the university.

To capture the complex nature of contradictions, the study employed a naturalistic methodology and relied primarily on in-depth interviews with the participants, observations of their online behaviors, and the artifacts that student participants produced by the end of the semester.

The findings indicate that most participants had multiple activity systems within the course environment, some of which were oriented towards academic and others non-academic objects. According to the data and theoretical interpretations, most participants had primary, secondary, and quaternary contradictions. Most primary contradictions had the nature of use and exchange value, which in practical terms indicates the orientation towards genuine learning or earning a grade. Primary and quaternary contradictions led to

many secondary contradictions. Furthermore, it transpired that content-based instruction pushed the participants to engage actively in actions oriented towards improving English even for the participants who did not have the object of improving English. Among many other findings are detrimental consequences of contradictions that are traced back to the persecutions of BIHE students, faculty, and staff.

CHAPTER ONE: INTRODUCTION

Overview

Distance content-based language instruction (CBLI) in higher education is a relatively new area of inquiry. It is potentially a fertile field given the rapid spread of distance and open education and their capacity to outreach to learners with different language backgrounds across the globe.

Among a number of different manifestations of CBLI courses, there are some whose primary goal is to teach the target foreign language (FL), and those whose primary goal is to teach content, such as subject matter of a mainstream university course (e.g., history, anthropology, chemistry, etc.) in FL. While the former type has been used primarily in language schools and programs, the latter are more applicable to courses where the learning of the subject matter is critical. This type of CBLI occupies a unique position in that it prioritizes content learning, and, as such, its goals can be closely aligned with the goals of the mainstream curriculum in postsecondary institutions. At the same time, these courses allow the learners to improve their FL, which for many majors, such as FL education, international studies or business administration is the key to professional success. The pedagogical soundness of the CBLI approach has been demonstrated consistently both in terms of students' development of the subject matter and the target language (Brinton, Snow & Wesche, 2003; Kasper, 2000a; Stryker & Leaver, 1997).

Content-based language instruction combined with distance and open education may have a strong facilitative effect on global education. It is a widely accepted fact that distance

and open education has spread far and wide across the globe. According to some sources, distance and open education seem to be wide-spread in developing regions, such as India and Africa (Badat, 2005; Panda, 2005). Geographical borders between learners and teachers are now being easily crossed over. However, the unique capacity of distance and open education to cross geographical borders creates linguistic and cultural challenges. In particular, how to make education accessible to the world-wide population of learners who speak languages other than the medium of instruction? Integration of CBLI in distance and open education could solve this problem, which in the long run may result in more effective solutions to the inaccessibility of education, and perhaps, an emergence of an official global lingua franca.

This present study investigated the heart of this potential – the integration of the CBLI approach in distance education. The setting of this study was also appealing to the globalization potential. A university in Iran, the Bahá'í Institute for Higher Education (BIHE), has been struggling to provide learning opportunities to a marginalized population in the country for the last two decades. Bahá'í youth in Iran have been denied access to higher education on the basis of religious beliefs for the last few decades (U.S. Department of State, 2007). Due to recent intensified persecutions of Bahá'ís in Iran, there has been a direct threat to the functioning of BIHE, hence the decision to start implementing a distance model of education. This innovation has opened up doors to international collaboration. Adjunct professors from all over the world are now offering their service to provide quality education to BIHE students via distance. However, now the university is facing the linguistic challenge. The students' native language is Farsi, and English – the would-be predominant medium of instruction of BIHE distance courses – plays a minimal, if any, role in the Iranian culture. Thus, BIHE represents a mini replica of emerging linguistic barriers to higher education in global distance and open education.

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Theoretical Framework

Epistemologically, this study comes closest to the constructivist philosophy of inquiry (Guba & Lincoln, 2005). Accordingly, the assumptions underlying this research are consistent with naturalistic inquiry rather than positivistic research. Among such assumptions, Guba and Lincoln (2005) highlight: subjective nature of inquiry; biases as natural characteristic of research; the researcher as a co-participant in the lives of the other study participants; and qualitative methods of inquiry. These assumptions are evident in the language of this dissertation (such as the use of the first person), a different understanding of limitations and generalization, and in the multiple roles that I, as a researcher, assume in this project.

The study is framed within cultural historical activity theory (CHAT). Today, CHAT represents one of the valuable assets of naturalistic inquiry. CHAT has developed from cultural historical psychology, whose origins are rightly attributed to Lev Vygotksy, a Russian psychologist and educator. His theory is based on the ideas of the German philosophers Kant, Hegel, Marx, and Engels (Engeström, 1987). In the heart of Vygotsky's theory is the idea that humans perform any conscious actions towards achieving their goal or object by means of mediating instruments, either physical, such as a pen or hammer, or psychological, such as language. This mediating process not only allows the subject to achieve his or her goal, but also most importantly transforms the subject's consciousness (Vygotsky, 1982b). Vygotsky (1982a; 1982b) also proposes that any higher psychological functions, such as attention, voluntary memory, counting, and categorizing are attributable only to humans and developed in the process of internalization. Any such function is originally social. He gives an example of a mother who first draws the attention of her baby to a particular object by pointing at it. The baby thus learns to draw and pay attention to things around it. Later, this function of attention paying becomes internalized.

Using the terminology of Vygotsky, we can say that higher psychological functions first exist at the interpsychological level (i.e. social or between people) and then become intrapsychological (i.e. internal or inside the subject). Language acquisition takes place in a similar fashion; first it exists externally between the baby and care-giver, and then becomes internalized in the mind of the baby.

Vygotsky's ideas have evolved into different models and theories, of which CHAT is one of the most popular. Leont'ev, A. N., a close colleague of Vygotsky, is considered the father of CHAT both in Russia, the homeland of this theory, and abroad. Leont'ev's (1981) major contribution was that he took individual human actions to the level of collective activity. By doing this, he connected his theory directly to the original sources of Vygotsky's ideas – Kant, Hegel, and Marx. Thus, activity becomes the smallest unit of analysis that contains all the elements of human collective activity, namely: subject, instruments, object, division of labor, community, and rules. Many other Soviet and Western scholars adopted the works of Leont'ev (1981) and further developed it to represent the current version of cultural historical activity theory.

Engeström (2001), a leading activity theorist in the West, talks about CHAT as a constellation of multiple activity systems constantly changing and interacting with each other. His thesis is that any human activity has a potential to grow, and that this growth is cyclical, going through cycles of internalization (learning) and externalization (problem-solving or creation). Central to this growth are the contradictions within the elements of each individual activity (subject, instruments, object, division of labor, community, and rules), between these elements, and between surrounding activity systems. As contradictions are resolved, the activity continues to develop and grow. Unresolved contradictions lead to stagnation of activity and possibly its death.

Figure 1 shows how the central activity system interacts with surrounding activity systems through the nodes of the six elements: subject, instruments, object, division of labor, community, and rules, and where potential contradictions may arise. Engeström (1987) provides a classification of four types of contradictions in such a network of activity systems: primary, secondary, tertiary, and quaternary. Primary contradictions can arise within any of the six elements of the activity: subject, instruments, object, division of labor, community, and rules (marked as 1 in Figure 1). Secondary contradictions occur between the six elements of the activity, for example between the subject and the instrument of the activity (marked as 2 in Figure 1).

Tertiary contradictions take place only at the object node of the activity system when an outside more advanced activity introduces a new object into the central activity system (marked as 3 in Figure 1). This new object may create disagreement and clashes of interest, which is the result of tertiary contradictions. Finally, the quaternary contradictions occur between the central activity and any surrounding activity system (marked as 4 in Figure 1)
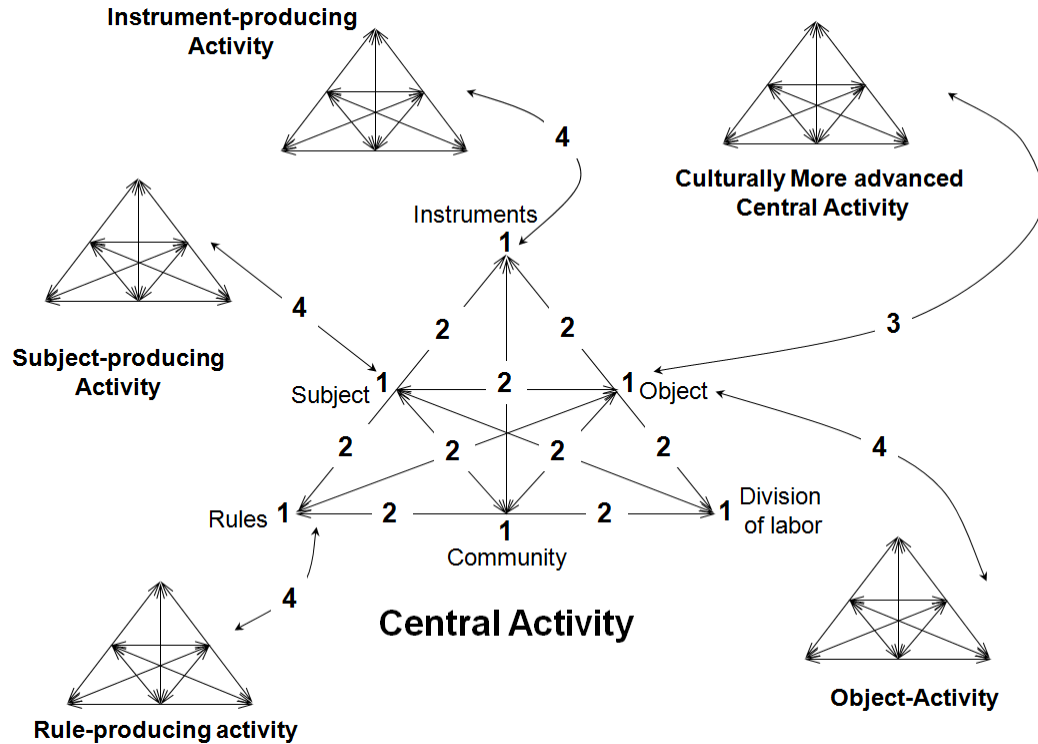
Figure 1. Four types of contradictions: 1 – primary, 2 – secondary, 3 – tertiary, and 4 – quaternary. Adapted from Engeström (1987).

This study views learners of the distance content-based course as subjects of their activity systems. The central activity system is a student-specific activity of course-taking that lasted one semester. Each such activity system had their own objects, i.e. motives that provided impetus and direction to the activity. Each subject was mediated by a number of instruments, of which some were common to all learners, such as English as a foreign language and distance learning instruments, and others were specific to subject participants. Each subject is part of the same community of classmates and instructors. They interacted within their activity systems using implied and explicitly stated division of labor, and followed implied and explicitly agreed upon rules.

The students' central activity systems also interacted with and were mediated by surrounding activity systems. Those included the students' community activity systems outside of the course (families, political situation in Iran), and also the activity systems of the course instructors, course developers and the course technology support person, among others. A number of contradictions within and between the central activity systems offered a potential for the development of the subject matter of the course as well as the mediating instrument – English as a foreign language. Based on the assumption of CHAT, these contradictions and their resolutions are key to the development of the subject matter and the foreign language, hence the particular focus on contradictions in this study.

Statement of the Problem

As was stated previously, one of the premises of CHAT is that any human activity can be viewed as a constellation of interacting activity systems, each consisting of the six elements: subject, instruments, object, division of labor, community, and rules. Further, it was said that CHAT can help explain the development of human activity, which Engeström (1987) introduces into the field as expansive cycles of growth (to be discussed further). In the context of the study, the human activity in question is the learning of the subject matter and the linguistic medium of instruction – English as a foreign language.

Understanding how this expansive growth of second language acquisition (SLA) occurs would require a new set of SLA-related definitions for internalization, externalization, expansion, and other related constructs. To my knowledge, few of these constructs exist in the SLA field. In their recent extensive review of literature on internalization in SLA, Lantolf and Thorne (2006), two leading scholars who apply cultural historical theory to SLA, suggest that the process of internalization of second or foreign language manifests itself through the learner's repetition of target language structures and private speech described as articulation of the most difficult elements of the language. However, as far as

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externalization or expansive cycles of growth in SLA are concerned, the authors have little if anything to say at this point (Lantolf & Thorne, 2006).

Engeström (1987, 1999a), on the other hand, discusses expansion, internalization, externalization, and other related constructs in much detail. However, he too points out that much of what we know about these phenomena is still vague. For example, we know little about historical cycles of expansion (Engeström, 1999a). Besides, his construal of these constructs is not directly applicable to SLA. Engeström primarily applies CHAT to investigate dynamics in organizations, where expansive cycles of growth take place through the iterations of internalization (i.e. understanding the situation or problem) and externalization (i.e. finding creative solutions to the problem). While his approach is insightful, it does not provide much theoretical support for the investigation of SLA. The most that we can infer from this model is that the silent period common to all language learners is due to the internalization processes, and the creative production of the language as externalization. This relationship, however, is not present in the SLA literature, let alone the empirical investigation of this relationship.

Given this lack of theoretical foundation for the exploration of expansive cycles of growth of SLA in the distance CBLI environment, one faces a need to conduct an exploratory study that would draw the picture of such development in big brush strokes or would capture some elements of this development.

To conclude, the problem at hand is two-fold. First, there is a lack of general knowledge about developmental processes that take place among English as foreign language learners who are engaged in distance English-medium college-level courses. Put another way, little is known how such learners develop their competence in the actual subject matter of the course and the target foreign language. Second, the study was also

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motivated by intent to improve pedagogical practices of a specific CBLI course in a given setting with its unique limitations and affordances.

<div align="center">Purpose</div>

In view of the above, the purpose of the study was to address these two problems: 1) lack of general understanding of the nature of expansive cycles of growth in SLA in the distance CBLI environment, and 2) lack of information on how this process happens in the specific setting of the study in Iran. These two problems are interrelated. The first one concerns the theoretical framework of CHAT and its application to SLA. The second problem is context-specific and implies an action research perspective. The primary focus of this study was to address the second problem, which yielded specific pedagogical implications for the particular setting and to some degree other similar settings, given the assumed transferability of the final research findings (Lincoln & Guba, 1985). These findings, however, also have theoretical implications, which concern the first problem under consideration. In this sense, the proposed study has paved the way for the forthcoming more in-depth research into internalization, externalization, and expansive cycles of growth in SLA, among other things. This connection between theory and practice is strongly encouraged in CHAT research (Engeström, 1999a).

The particular focus of this exploratory study was on contradictions that occurred in activity systems of the target learners. According to Engeström (1987), "[t]he process of expansive learning should be understood as construction and resolution of successively evolving contradictions in the activity system" (p. 8). He further says that contradictions occur in the cycles of internalization and externalization, and it is their resolution that leads to breakthroughs and further expansion of the cycle of growth (Engeström, 1999a). Elsewhere, he makes a point that researchers need to investigate historicity of expansive cycles of growth, particularly, the difference between the "time's cycle" of action and that of

activity: "[w]e know little of the dynamics and phases of such developmental cycles. It seems promising to analyze these cycles in terms of the stepwise formation and resolution of internal contradictions in activity systems" (Engeström, 1999a, p. 33).

Given this theoretical significance of contradictions, their investigation appeared promising. The findings on the nature of contradictions and their resolutions in the distance CBLI course have direct pedagogical implications for BIHE and contribute to the theoretical understanding of the expansive cycles of growth in SLA in the context of distance CBLI courses.

To this end, the study investigated a distance CBLI course on critical thinking offered at the BIHE University. It was the first bridge course in the BIHE curriculum, whose purpose is to help Farsi-speaking students transition from pure English language instruction to college level subject-matter courses delivered through the medium of English as a foreign language.

Research Questions

Two overarching questions, each with four sub-questions guided the study:

1. What types of contradictions arise in the central activity systems of individual learners of the target course?

    1.1. What primary contradictions arise in the central activity systems of learners in the target course?

    1.2. What secondary contradictions arise in the central activity systems of learners in the target course?

    1.3. What tertiary contradictions arise in the central activity systems of learners in the target course?

    1.4. What quaternary contradictions arise in the central activity systems of learners in the target course?

2. What are the consequences of the identified contradictions?

    2.1. What are the consequences of the identified primary contradictions?

    2.2. What are the consequences of the identified secondary contradictions?

    2.3. What are the consequences of the identified tertiary contradictions?

    2.4. What are the consequences of the identified quaternary contradictions?

Question 1 sought to identify all visible contradictions in the activity systems of individual learners. Understanding the four types of contradictions in an activity system implies an understanding of relationships among the contradictions, which according to the theory can be identified through levels of contradictions: primary, secondary, tertiary, and quaternary, hence the four sub-questions targeting the four types of contradictions. These sets of questions are tapping into the underlying roots of the contradictions in theoretical terms because certain contradictions theoretically are caused by others.

Question 2 aimed to investigate the consequences of the identified contradictions in terms of what happens as a result of contradictions. According to Engeström (1987, 1999a, b) contradictions could result in their resolution or absence thereof depending on the conditions. Resolutions lead to: 1) a new model of the activity system with modified rules, instruments, division of labor, or community, or 2) emergence of a new activity with a different object. Conversely, when contradictions remain unresolved, this may lead to a lag in the activity or death of the activity system depending on the scope of the contradictions.

Both sets of questions directly relate to the two problems that this study addresses. Concerning the first problem, understanding the relationships and consequences of contradictions in a distance CBLI course contributes to the theoretical interpretation of expansive cycles of growth in SLA. Engeström (1987) concisely puts it this way: "The process of expansive learning should be understood as construction and resolution of successively evolving contradictions in the activity system" (Chapter 2). Because

theoretically any expansion involves internalization and externalization, the findings of this research shed light on what these constructs mean in SLA. In terms of the second problem, there are direct pedagogical implications of these findings for distance CBLI courses at BIHE. In particular, awareness of the roots and consequences of contradictions in one such course will help in the design of other CBLI courses that effectively integrate contradictions of certain types and provide appropriate conditions for their resolution.

Operational Definitions of Terms

The following terms are key to the study. The bulk of the terms are CHAT constructs most relevant to the research questions. The others are related to the nature of the bridge course under investigation.

Activity – a CHAT construct that relates to a unit of analysis of human pursuit. It includes an agent of the activity and is directed towards a certain result. Activity is mediated by a number of factors, such as the materials and resources the agent is using (instruments), the groups of people he or she is surrounded by (community), arrangements (rules) and roles (division of labor) that are present between the agent and other members of the community.

Subject – a CHAT construct that refers to the main agent of an activity system. In the given context, a subject is an individual student participant of the study.

Central activity system – a CHAT construct that in this study refers to a semester-long activity of taking the critical thinking course, in which the subject is an individual student participant.

Object – a CHAT construct that refers to the sole reason for the existence of an activity. It emerges as a way to meet the need of the agent, and as such, it is defined by the motive of the agent. For the purpose of this study, the terms "object" and "motive" are used interchangeably. Object/motive defines the borderlines of a given activity system.

Object/motive can be identified asking the question "*why* is the agent engaged in what he/she is doing?"

Outcome – a CHAT construct. As activity develops, an object, i.e. "raw material" becomes transformed into a tangible outcome, the end result of the activity.

Instrument – a CHAT construct that refers to the means by which the subject achieves his or her object.

Community – a CHAT construct that relates to a group of people that are immediately involved in the agent's activity system.

Division of labor – a CHAT constructs that refers to the roles of the agent and members of the community immediately involved in the given activity system.

Rules – a CHAT construct that refers to the arrangements, norms, or agreements in the community, according to which, each member of the community including the agent is expected to act.

Action – a CHAT construct that refers to a unit of analysis. Actions are finite steps that an agent completes towards satisfying his/her motive and transforming the object of activity into an outcome. Action is identified through the question of "*What* is being done to achieve the object of the activity?"

Disturbance – a CHAT construct that refers to a tension, a problematic situation that breaks the smooth flow of the agent's actions.

Innovation – a CHAT construct that refers to a solution, whose purpose is to smooth the flow of the everyday actions of the agent when a disturbance occurs. Such innovations are often "unremarkable" in that they apply to small everyday actions (Engeström, 1999b, p. 68).

Contradiction – a CHAT construct that refers to the underlying source of disturbances and innovations. As such, contradictions are manifested through disturbances or

innovations that arise in everyday actions (Engeström, 1987). They are formulated in terms of a conflict of dual nature where one alternative contradicts the other, expressed by means of *versus*, *between,* and *or*.

Consequence – a construct that refers to any outcome of a contradiction at the activity level. This may include emergence of new activities as a result of contradictions, or new models of the same activity where a modification of a mediator took place (modified instrument, new division of labor, rule, or community).

Bridge course – an English-medium course that teaches a college level subject matter to students whose primary language is other than English. A bridge course helps students transition from target language courses to subject-matter courses delivered in the target language. A bridge course incorporates linguistic support in the form of glossaries, multiple revisions of assignments, analysis of academic writing genre, and other means.

English as a foreign language – the linguistic medium of instruction for the bridge course. It is a language that is not native for the target students and that is not commonly spoken in their environment.

Delimitations and Limitations

The notion of delimitations, that is external validity or generalizability, in this study is different from typical quantitative research. Lincoln and Guba (1985) propose an equivalent of external validity in qualitative research, and they term it transferability. Transferability implies thick description of the setting and participants of the study so that the reader could be assisted in transferring the knowledge that the researcher acquired in his or her study to another setting, however similar or dissimilar it is. Eisner (1998), too, prefers to talk about generalization "as transferring what has been learned from one situation or task to another" (p. 198), which in turn refers to the idea of verisimilitude or lifelikeness that Bruner (1986) suggests. Thus, being qualitative in nature, this study aimed for transferability. The findings

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of this study are likely to be more easily transferred to contexts that are as similar to the

setting of the proposed study, such as other BIHE online CBLI courses. However, given the

definition of transferability the findings could just as well be applied to other contexts

depending on the reader's ability to transfer the findings in a meaningful way.

The same assumptions of research discussed above apply to the notion of limitations.

While in quantitative research limitations are due to the lack of internal validity in the study

design, in qualitative research, these limitations may be due to the lack of credibility.

Chapter Three discusses means of ensuring credibility in this study, but there are factors

that undermine this characteristic. Such limitations are mostly due to the online nature of

the research, theoretical framework, and the culture of the student participants.

Because the study was conducted exclusively via distance, the quality of the data

collected suffered tremendously. One reason is the lack of extra-linguistic support during

the interviews with intermediate English proficiency participants. Another cause of this

limitation was numerous technical problems during interviews, such as distracting noise and

prolonged delays. Inability to directly observe the student participants' actions was another

serious handicap. In fact, many findings in this study remained inconclusive because there

was insufficient evidence that could only be collected with direct observation of the

participants' course-related actions. Due to the lapse of time between the actual event and

the interview, the participants inevitably forgot many disturbances and innovations occurring

in their everyday course-related actions.

In terms of theoretical limitations, they refer to the lack of agreement in defining certain

CHAT constructs, such as object at the level of activity as seen by CHAT theorists

(Engeström, 1987) versus object at the level of actions as envisioned by Vygotsky

(Engeström, 2001). There is also a different understanding of subject as being collective or

individual (Davydov, 1999). There is also no clear guidance on where in the activity system

to place such mediating factors as instructors; they may belong to the node of instruments, community, rules, or as subject of an external activity system causing tertiary contradictions. Probably, the most hindering of all theoretical limitations for this research is the lack of operationalization of contradictions within and between the elements of activity systems. Most of this guidance comes from Engeström (1987), but his few examples were not sufficient to extrapolate the principle to the cases in my research.

Finally, the culture of politeness and respect that seems to permeate everyday interaction of Iranian Bahá'ís might have affected the credibility of this study too. There was some evidence from the interviews that indicated the student participants' reluctance to be honest at the expense of appearing too critical, hence impolite and disrespectful. As a result, some responses to the interview questions were elusive despite my effort to ensure confidentiality. Attributing this characteristic to all Iranian Bahá'ís would be stereotypical. However, it is possible that this cultural element affected the quality of the data obtained in this study.

Significance of the Study

As was explicated above, the study aimed to achieve two goals: theoretical understanding of expansion in SLA and practical guidance in that the knowledge of the nature of contradictions in this distance course allows for a more informed implementation of other bridge courses at BIHE. Given the transferability of the study implemented through the thick description of the setting and procedures, the findings of this study may also be helpful for a broader audience of distance CBLI researchers and practitioners. Finally, this study contributes to the further refinement and understanding of the CHAT framework, which is still in the developmental stage. This dual significance of the study is typical of CHAT research. Engeström emphasize that development of CHAT theoretical concepts takes place incrementally through localized practice-oriented research, "Such intermediate theoretical concepts provide a two-way bridge between general theory and specific practice," (Engeström, 1999a, p. 36).

CHAPTER TWO: LITERATURE REVIEW

Introduction to Chapter Two

The study is heavily driven by its theoretical framework - cultural historical activity theory (CHAT). It defines the epistemological stance of this research, guides methodological decisions, and shapes the language of the study. Its complexity is another reason for special attention to this theoretical framework. It has a long history starting from German idealist philosophers: Kant, Fichte, and Hegel, and as such, has deep philosophical roots and concepts. With this in mind, much of the content of this chapter is going to discuss CHAT.

Since the time CHAT came into existence in its original form in the 1930s in the Soviet Union, it has been applied to a variety of contexts. Many Russian scholars - philosophers and psychologists - contributed to the development of CHAT as a theory that explains human learning and applied it to investigate learning processes, primarily of young learners (Davydov, 1999; Davydov, Zinchenko & Talyzina, 1982; El'konin, Galperin, 1969; Leont'ev, 1975, 1981; 1989; Leontiev, 1981; Zinchenko, 1981). In recent years, CHAT has drawn much attention of Western scholars who further contributed to the development of CHAT. Among the most cited contributors are Cole (1996), Engeström (1987), Kuuti (1996), Nardi (1996a), Thorne (2004), Wells (2004), Wertsch (1998) to name just a few. Many studies have employed CHAT as a heuristic to understand human activity and to provide recommendations for improvements. Engeström (1987, 1989, 2001) and his colleagues have used CHAT to study activities in clinics, hospitals, courts, and schools, to name just a

few contexts. There is a strong CHAT movement in the field of human computer interaction (HCI). Exemplary in this respect is the book edited by Nardi (1996a) that highlights the works of researchers who chose to depart from traditional cognitive-interactionist models of HCI and applied CHAT to account for the missing cultural and historical aspects of HCI (Christiansen, 1996; Kuuti, 1996; Bodker, 1996, 1997; Kaptelinin, 1996; Holland and Reeves, 1996). In line with this strand of research, many scholars are investigating new emerging technologies and e-learning opportunities in light of CHAT (Barab, Barnett, Yamagata-Lynch, Squire & Keating, 2002; Greenhow & Belbas, 2007; Mwanza; 2002; Turner & Turner, 2001). Finally, researchers from the field of second language acquisition have applied CHAT to a number of studies. Some of them have looked at features of pedagogical tasks and differentiated them from student-constructed activities (Brooks & Donato, 1994; Brooks, McGlone & Donato, 1997; Coughlan & Duff, 1994; Platt & Brooks, 2002; Roebuck, 2000; Yilmaz, 2005). Others have looked at different elements and dynamics of language learning activities as defined by CHAT (Lantolf & Ahmed, 1989; Lantolf and Genung, 2002; Li, 2007; Storch, 2004; Thorne, 2000, 2003, 2004). A few other studies investigated SLA related issues pertaining to teacher development and vocabulary retention, such as Ban (2006) and McCafferty, Roebuck and Wayland (2001).

This selection of studies is but a tip of the iceberg of the much larger body of the research that has been conducted using the CHAT framework. While this study has much in common with most of the above cited research in terms of their focus on computer technologies and second language acquisition, few if any of them have dealt with issues pertinent to this particular study. To my knowledge, there is no research that has investigated content-based language instruction per se, let alone in connection to distance education. An exception could be Basharina's (2004) study on contradictions of language learners engaged in an activity of an international telecollaboration (see p. 45). This dearth

of previous research and literature at this intersection of disciplines renders this study both challenging and exciting. It is challenging in that there is little previous work to lean on. It is exciting because it promises to open up a new venue at the age when distance education and ability to use a foreign or second language for real-life academic or professional purposes are becoming a norm.

Given its interdisciplinary nature, this chapter consists of multiple sections organized according to their focus. The first section describes CHAT and its central concepts and constructs specific to the study. The second section provides a review of the literature on content-based language instruction. The third section discusses major trends in distance language education. Each section concludes with a summary of the literature and implications of the findings for the current study. Finally, the concluding section synthesizes the three previous sections guided by the particular focus of this study, i.e. contradictions in activity systems of learners. More importantly, it defines CHAT and its central components as they apply to the specific context of the study.

<div align="center">Theoretical Framework: Cultural Historical Activity Theory</div>

<div align="center">*Introduction to the Theoretical Framework*</div>

This part of the literature review lays down the theoretical foundation for the study and in some ways puts the rest of the chapter into perspective. It starts with a historical overview of the cultural historical activity theory (CHAT) and culminates in the discussion of concepts and constructs central to the proposed study.

Engeström (2001), a modern activity theorist, discusses the evolution of CHAT in terms of three generations starting from the beginning of the 20th century and ending with the most recent developments. This approach provides a simple and clear chronological

explication of this complex and still evolving theory. What follows is the discussion of these three generations with a particular focus on contradictions of CHAT.

First Generation of Cultural Historical Activity Theory

CHAT shares its origins with the sociocultural theory of learning (also referred to as cultural historical psychology) founded by the Russian psychologist Lev Vygotsky. Vygotsky's legacy gave rise to a number of related and yet differing interpretations and developments of his works advanced by scholars across the world. In his brief historical accounts of activity theory, Alexei Nikolayevich Leont'ev (1989), a colleague of Vygotsky's and the rightful founder of activity theory, shares his memories of the birth of the sociocultural theory in the walls of the Institute of Psychology in Moscow in 1925. The ideas of the twenty-nine year-old Vygotsky, who had recently joined the Institute, were quite radical given the mainstream behaviorist interests that pervaded the Institute and indeed the whole field of psychology in Russia and abroad. While his colleagues were engaged in experiments on stimulus-response reactions on rats, Vygotsky was perusing the works of Kant, Hegel, Marx, and Engels and building a new theory of human psychology.

Vygotsky's theory explains the development of man in four domains: phylogenesis (the evolution of humans from apes), sociocultural history (development of man throughout human history), ontogeny (lifelong development of an individual person), and microgenesis (short-term psychological developments of an individual person) (Lantolf & Thorne, 2006). According to Vygotsky (1983b), phylogenesis and sociocultural history become molded in the ontogenesis of an individual child, as he or she replicates the entire biological development of man and the acquisition of the human cultural heritage accumulated throughout the long history of mankind. While Vygotsky himself did not produce much research in the microgenesis domain, many of his contemporary and

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probably most of the modern followers have used the sociocultural theory to investigate

psychological changes particularly in this domain of human development.

However, it appears that most scholars recognize Vygotsky's genius because he

resolves the eternal problem with the dualism of the concrete and abstract, material and

ideal, body and mind (Engeström, 1983). This problem stems from the notion of

consciousness, which takes a central role in the works of Marx, Vygotsky, and Leont'ev.

According to Leont'ev (1975), philosophers and psychologists before Marx (here he refers

to idealists, existentialists, phenomenologists, and psychoanalytics) failed to grasp the

nature of consciousness. Marx, however, proposed a unique understanding of

consciousness as a product of social relationships. Leont'ev's son, Leontiev, Alexei A.

(1981), a passionate adherent of his father's ideas explains the development

of consciousness in these terms:

> This form of reflection - mental reflection - occurs only at a definite level of biological
>
> evolution, and constitutes the precondition for further evolutionary development in the
>
> animal world. But in animals the possibility of mental development is limited by the fact
>
> that each individual animal establishes a direct and non-mediated mutual relationship
>
> with the environment and the objective world at large. [...] The emergence of society
>
> and labour means that in man mental reflection acquires a qualitatively new form - that
>
> of *consciousness* (p. 5).

Consciousness of children similarly emerges as a result of socializing with the physical

world. "With the consciousness emerges the language as a way to objectify the world"

(Leont'ev, 1975). Leontiev, A. A. (1981) expounds on this idea in the following way;

"[w]ithout language, consciousness as a human form of mental reflection would be

impossible. [..]. Only because consciousness rests on social experience and direct social

practice is man able to come to conscious terms with objects and events" (p. 6). The

triangle in Figure 2 demonstrates that mediation of objects in human actions becomes the

link that connects the material objects with its ideal reflection in human mind by means of

mediating psychological instruments, among which language takes an exclusive role.

Instrument

Subject   **Object**
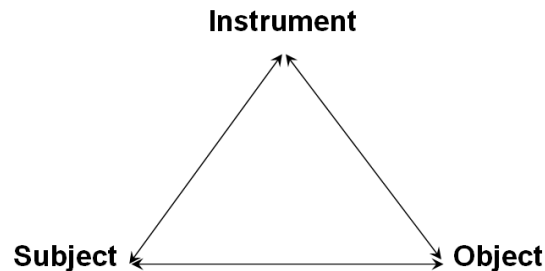
Figure 2. Vygotsky's model of instrument-mediated and object-directed action.

This triangle is implicitly or explicitly present in many studies conducted within the

sociocultural theoretical framework. It demonstrates the central premise of the theory about

the relationships between three central elements of human action: subject, instrument, and

object (Figure 2) (Engeström, 2001). Methodologically, this approach considers human

actions as a primary unit of analysis. Vygotsky (1987) makes this point through an analogy

of a molecule of water, which includes "all the basic characteristics of all" (cited in Wertsch,

1998, p. 26). Understanding human action situated in a given cultural-historical context

reveals the complexity of that action and its relationship to the surrounding influences.

To further explicate this triangle diagram in Figure 2, man, as a subject in this triangle,

performs all conscious actions towards achieving an object strictly by means of mediating

instruments, either physical, such as a pen or hammer, or psychological, such as language,

also called signs. Conscious actions, such as writing, hammering a nail, using voluntary

memory, attention giving, or conveying thoughts are examples of higher psychological

functions. Spontaneous unconscious actions, such as immediate removal of the hand from

a burning stove, result from lower psychological functions and take place directly between

subject and object through the stimulus-response mechanism (see the horizontal line

connecting subject and object in Figure 2). While lower psychological functions are inherent in the biological makeup of the human body, higher psychological functions are acquired only through human interaction, where signs, i.e. psychological instruments, such as language, are of primary importance (Vygotsky, 1983b).

Vygotsky explains the ontogenesis of higher psychological functions as being social in origin. As newborns come into social contact with adult caregivers, they start developing their higher psychological functions through the assistance of the adults. Thus, a mother would first draw attention of her child to certain things in their environment. At this stage, the higher psychological function of attention drawing exists at the "interpsychological" level (Vygotsky, 1982a, p. 116). As this function moves to the "interpsychological" level, it becomes voluntary. As Vygotsky puts it, the child from being directed by others, starts to direct him/herself. Wertsch (1998), a leading expert in Vygotsky's theory, calls these levels "intramental" and "intermental" (p. 110).

Similarly, language, as a sign system, first exists at the intramental level, and then becomes intermental. Vygotsky (1984) terms this process "internalization", a complex process of "grafting" of a function inside the mind, which entails a very intricate transformation of the brain (personal translation, 1984, p. 15). Thus, speech first exists in its social function and is always externally produced. By the time higher psychological functions have developed enough, speech acquires another function – that of cognitive. In its cognitive function, language is referred to as inner speech, and as such, it is never externally produced. However, the language part of the brain is still actively engaged during thinking processes even if a person is not speaking. This was confirmed by studies that recorded electrical brain activity (Lantolf & Thorne, 2006).

One should note that speech does not suddenly change from being social to inner. There is an intermediary stage called "egocentric speech" (Vygotsky, 1982b, p. 57). As

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language becomes internalized, speech moves more and more inside the brain, and at this stage, we can observe egocentric speech in children. Egocentric speech is a mix of social and inner speech, in that it is externally produced as a social speech, but it primarily fulfills a cognitive function to facilitate a thinking process. In fact, Vygotsky (1983a) asserts that egocentric speech is typical when a child encounters a problem in understanding something. In second language acquisition, egocentric speech is usually termed private speech, which was introduced by Flavell (Lantolf & Thorne, 2006).

Another important contribution of Vygotsky (1982b) is the concept of the zone of proximal development (ZPD). ZPD is a difference in the quality of human action performed with and without an expert assistant. This concept underlies the importance of collaboration with the presence of a more competent person in the learning process. It helps to identify the developmental potential in a child. Imitating an adult is actually considered a form of working in the ZPD. As a child imitates, he/she goes beyond his or her present level of development, and this going beyond facilitates the internalization process.

Second Generation of Cultural Historical Activity Theory

As was mentioned earlier, Leont'ev, A. N. worked closely with Vygotsky. Later, however, Leont'ev moved to Kharkov, a city in the Ukraine where he established the Kharkov Psychological School (Leont'ev 1989). This school produced a number of renowned activity theorists. This is where we start tracing the roots of the actual activity theory. Leont'ev gave Vygotsky's ideas a new direction.

Leont'ev's (1981) outstanding contribution was that he added another layer of the unit of analysis – that of human activity. By doing this, he shifted attention from the level of human actions to the level of human activity. In his interpretation of Marx's works, human activity, of which labor is central, constitutes the driving force of human evolution. Leont'ev

explains his view of activity employing a well-known analogy of a collective hunt by primeval humans. From the perspective of an individual bush beater, his hunt activity is motivated by the need for food or clothing. His specific actions in the hunt are the beating of the bush to scare away the animals in the direction of his co-hunters waiting to attack. The beater's action of his activity is then the beating of the bush, and it is directed at the goal of sending the animals in the right direction. Finally, the operations of his action are the shaking of the bushes or whatever other specific body movements or sounds he has to make to accomplish his actions. His operations are controlled by conditions under which he performs the operations. Conditions can facilitate the shaking of the bushes or inhibit it. To extend Leont'ev's example, if the ground for example was wet after the rain, conditions could worsen and affect the operations, thus making it harder to maintain a stable position and shake the bushes properly.

Table 1

Hierarchy of activity. Adapted from Lantolf and Thorne (2006, p. 217)

Everyday description	Unit of analysis	Oriented toward	Carried out by	Time frame
Why something takes place	Activity	Motive, transformation of object	Community and/or society	Recurrent, cyclic, iterative
What is being done	Action	Goal	Individual or group	Linear, finite
The actual doing	Operations	Condition(s)	Individual	Present moment, process ontology

Lantolf and Thorne (2006) offer a concise summary of the three levels of activity in the form of a chart (Table 1). Every next level of the activity starting from the bottom up is built upon the preceding one. Action is built upon operations, and activity is built upon actions. One and the same set of operations can be used to accomplish different actions. To further develop Leont'ev's analogy, shaking the bushes and making other noises can be applied to achieve different goals, i.e. to accomplish different actions, such as sending a herd of animals in a certain direction vs. performing a ritual. Similarly, one and the same action can be accomplished to reach different objects, hence be motivated by different reasons. Again to extend, Leont'ev's example, the beater could scare away the animals because he wants to receive his portion of the meat and skin vs. because another hunter forced him to perform this action, so he complied in order to stay away from trouble. In fact, Leont'ev (1975) makes it clear that in human activity, goals of actions are typically different from motives of the activity. He goes on to say that subjects rarely realize their motives without in-depth analysis of their own activity, whereas they certainly understand their goals. He suggests that motives should be identified objectively by observing the subject's behavior and by paying particular attention to the emotional reactions that may accompany the activity of interest.

It is important to note another critical aspect of Leont'ev's contribution, which relates directly to the findings of the study. Emotions and feelings play a decisive role in human activity. He admits that while it may seem that the psychology of objects concerns cognitive processes only, in reality much of the anatomy of objects has to do with emotions and needs (Leont'ev's, 1978). He distinguishes two types of needs: 1) a need as "an internal condition, as one of the necessary precursors of activity" and 2) a "need as that which directs and regulates concrete activity of the subject" (The category of objective activity, ¶ 15). An animal, he continues, is moved by its hunger, which is the function of the first type

of need. However, the animal cannot direct or regulate its search for food the way a human being engaged in a food procuring activity can, which is the function of the second type of need (Leont'ev's, 1978):

Need is an object of psychological cognition especially in its directing function. In the first place, need appears only as a condition of the need of the organism and is in itself not capable of evoking any kind of positively directed activity; its function is limited to the activation of appropriate biological function and general excitation of the motor sphere apparent in nondirected seeking movements. Only as a result of its "meeting" with an object that answers it does it first become capable of directing and regulating activity. (The category of objective activity, ¶ 15)

To illustrate this extraordinary event, I would like to use an episode from a recent Oscar-nominated movie *August Rush* (Sheridan, 2007). The protagonist of the story is an 11-year-old orphaned boy, who calls himself August Rush. August is a musical genius. He hears music everywhere, and it guides him to his parents. He travels to New York to find his parents as his intuition inspires him. He goes through vicissitudes of a homeless life until one day he hears music in a church. He enters the church and stays there unnoticed by the inhabitants. Next morning, wandering around the church, he finds a girl who sang in the choir the other night. She is sitting at the piano. They start a conversation during which he admits that he loves music more than food and that he never tried playing the piano. The girl has to go to school and leaves August at the piano. This encounter of the main protagonist with the piano is an extraordinary event by Leont'ev's (1978) definition. While the girl is at school, August unlocks the secret of the piano and composes a number of original pieces of music. The mysterious part of the plot aside, this meeting of August's need with his new object, the piano, which for him embodies music, immediately explodes in a new activity. The transformation of this new object is so fast that in a matter of weeks,

he is granted an opportunity to conduct his own rhapsody at the Central Park in New York in front of thousands of people.

Perhaps not all encounters of human needs with their objects result in such dramatically evolving activities, but this example is illustrative of the extraordinary event in the psychology of human objects that remains hidden from the routines of everyday life unless it is brought to the fore by the artistic powers of writers and movie producers.

To conclude the discussion of Leont'ev's contribution to Vygotsky's work, human activity is always collective, and as such it represents a complex web of multiple factors acting upon it. In Leont'ev's activity theory, the original Vygotsky's triangle (Figure 2) appears at the top part of the larger triangle referred to as an activity system (see Figure 3). The subject is engaged in an activity towards an object. Drawing on Engeström's explanation, Lantolf and Thorne (2006) say that object is an abstract "'raw material' or 'a problem space' at which the activity is directed and which is molded or transformed into 'outcomes' with the help of […] tools" (p. 223). At the lower part of the triangle are other factors of the activity system: community, division of labor, and rules. These elements can be identified in Leont'ev's (1981) hunt analogy as well. Being a collective hunt, this activity involves a group of people working towards a common object – procuring food and skin for the community. Every participant of the hunt has his roles; for example, beating of the bushes is the role of the beater. These roles result from a certain division of labor. Finally, rules include agreements among the hunters as to who is doing what, at what point of time, in what order, and the like. As one can notice, these three elements (community, division of labor, and rules) are so inextricably tied to each that it is impossible to describe one without involving the others. Engeström (2001) visually represents these complex relationships among the elements of an activity system and uses double-headed arrows to show their mutual effects on each other, as one can see in Figure 3. It becomes obvious

that each individual participant of an activity has his or her own structure of the activity system because the subject may be driven by differing motives even though they may be using the same instruments, belong to the same community, and follow the same rules and principles of division of labor.

This understanding of human activity is crucial for the proposed study because while every individual student will be part of the same distance course and completing the same assignments, they will in fact be working in quite different activity systems and exposed to somewhat differing elements of their activity systems, such as their communities (e.g., their families), instruments at their disposal, and most certainly the objects of the multiple activity systems they will be engaged in throughout the course.
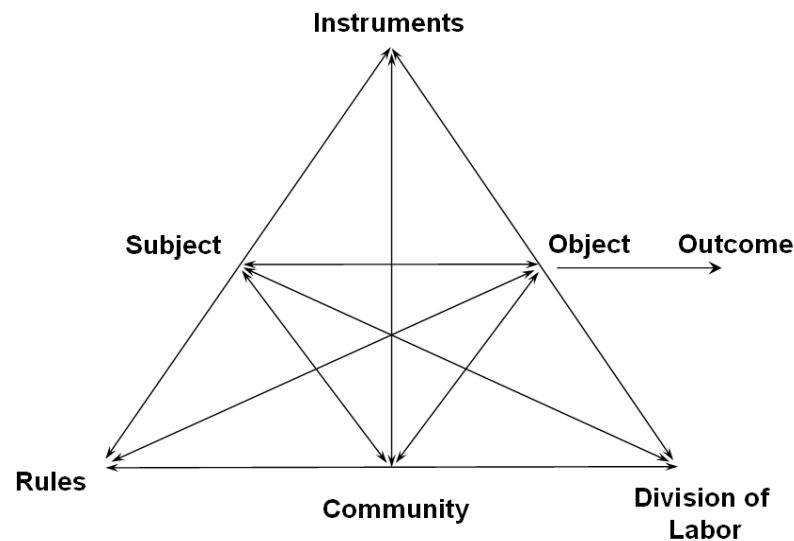
Figure 3. A model of the second generation of the activity theory (Engeström, 2001, p. 135).

Third Generation of Cultural Historical Activity Theory

Leont'ev's work was further developed by a number of scholars from the Russian school of psychology as well as those from the West. However, the most well known name among activity theorists in the West is probably Engeström. He argues that focusing on only

one activity system prevented researchers from investigating the potential influences from outside of this activity system (Engeström, 2001). Thus, the third generation of CHAT takes Leont'ev's activity system to yet another level by introducing multiple activity systems into the picture (see Figure 4). This view of CHAT has revealed previously hidden interactions among multiple activity systems involved in one collective endeavor. Figure 4 shows, for instance, how two objects formed in two separate collective activity systems come together to form a new object common to two different groups of people (Engeström, 2001).

Engeström's contributions, however, went beyond that. Using previous work on activity theory, as well as his own and his colleagues' extensive research, he formulated five principles of activity theory that have direct connection to the proposed study.
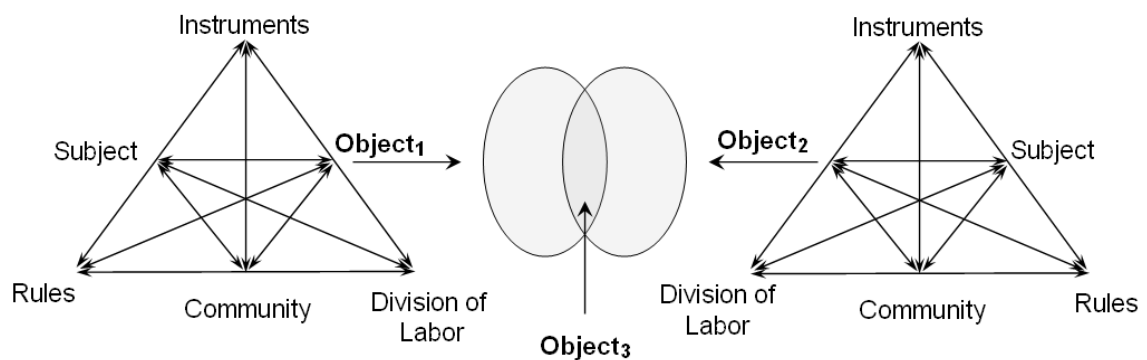
Figure 4. A model of the third generation of activity theory (Engeström, 2001, p. 136).

The first of these principles is that "a collective, artifact-mediated [same as instrument-mediated], and object-oriented activity system" should be viewed in the context of other surrounding activity systems, i.e. the network of activity systems (Engeström, 2001, p. 136). This principle is in essence the reiteration of Leont'ev's ideas. In his discussion of the psychology of personality, Leont'ev (1975) insists that individual psychological characteristics, whether inborn or acquired, provide little information about the true personality of a person, unlike the "system of activities that are realized through acquired knowledge and skills". He further says that one needs to investigate "the development of [a

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person's] activity, its specific types and forms, and the connections through which they

interact" [personal translation] (p. 60).
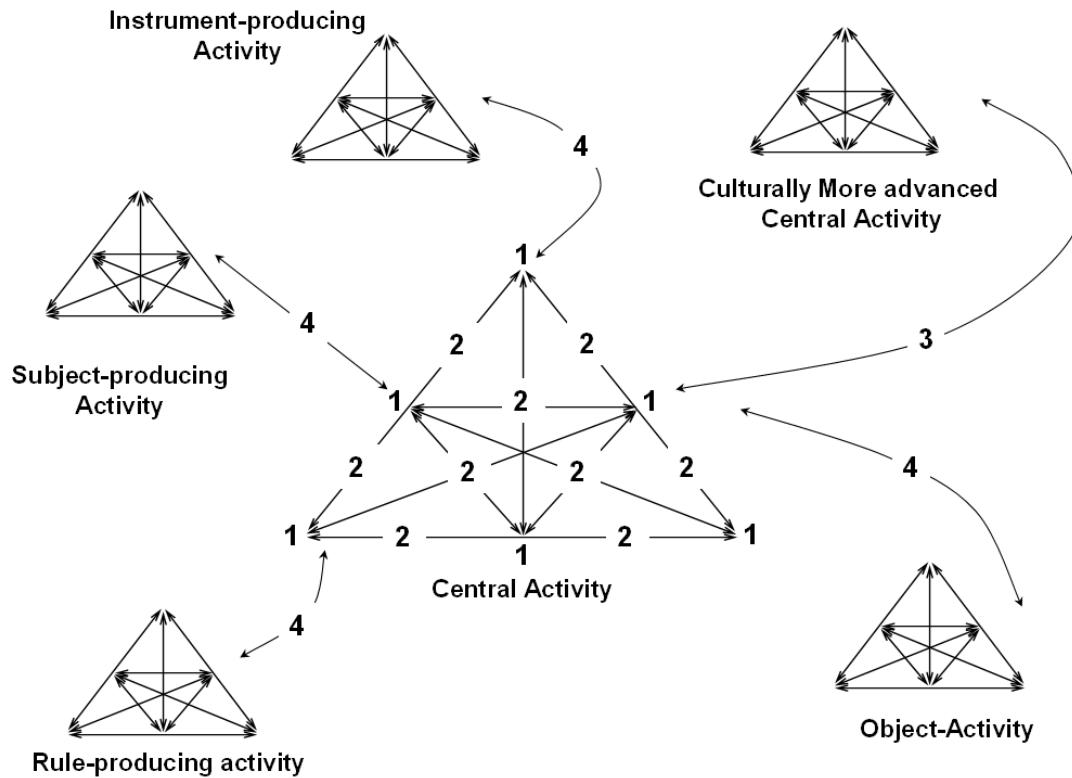
Figure 4. Interactions of surrounding activities and potential contradictions within and

between them (Engeström, 1987).

Engeström (1987), however, takes this general idea of Leont'ev and proposes a more

in-depth explication of the interaction of activity systems and their potential effects on one

another. For instance, he talks about activity systems that produce the subject, instrument,

object, and rule elements in the central activity system. In Figure 4 one can see subject-

producing, instrument-producing, object-producing, rule-producing activity systems of the

central activity system of a doctor's medical practice, an example suggested by Engeström

(1987). To expand on this example, the subject-producing activity system could be a

medical school. The instrument-producing activity system would be a company that

provides the doctor with necessary supplies and instruments for his work. The object-producing activity could be the patient's health or recovery, and everything that may affect its construal and definition. Finally, the rule-producing activity system is the administration of the medical practice that establishes and enforces regulations implemented in the practice.

The second principle that Engeström (2001) suggests is the multi-voicedness of activity systems, realized in participants' traditions, interests, opinions, and the diversity of instruments, rules, and histories present in any activity system. Partly this multi-voicedness comes from the division of labor that creates different roles, hence perspectives of the participants. Partly, the multi-voicedness is inherent in the fact of any single activity system is simultaneously interacting with the network of other activity systems that carry their own perspectives.

The third principle concerns the historicity of activity systems, in that they always carry some past history and change over time. Accordingly, any activity system should be analyzed on the background of its history and the history of its elements. Engeström (2001) calls for the investigation of the past of an activity system and its elements as well as the present transformation of the activity system and its elements. Moreover, he recommends that the study of the history should be local, i.e. applicable to the specific setting and global, i.e. applicable to concepts and practices in the field in general. Thus, for instance, "medical work needs to be analyzed against the history of its local organization and against the more global history of the medical concepts, procedures, and tools" (Engeström, 2001, p. 137).

The fourth principle is the role of contradictions in activity systems. Originally introduced by Leont'ev (1981) (more in-depth discussion follows) and further explicated by Ill'enkov (1977), contradictions are understood as potential causes of desirable changes in any activity system. A contradiction is often "characterized by ambiguity, surprise,

interpretation, sense-making, and potential for change" (Engeström, 2001, p. 134).

Engeström proposes four levels of contradictions: primary, secondary, tertiary, and

quaternary (Figure 4). The primary contradictions, indicated as 1 in Figure 4, arise *within*

the elements of the activity system: subject, object, instruments, community, rules, and

division of labor. Engeström (1987) provides an example of instruments that a doctor uses

in his practice. A doctor may be faced with a contradiction of how much to spend on the

instruments to maintain his/her cost efficiency (i.e. a contradiction between use value and

exchange value of medical instruments). The secondary contradictions (2) are those that

emerge *between* these elements within an activity system. According to Engeström,

traditional instruments used in biomedicine (instruments) may be inadequate for diagnosing

the patients with complex illnesses (object). The tertiary contradictions (3) arise when a

culturally more advanced activity within the central activity of interest introduces a more

advanced object or motive. This could be illustrated with a clinic administration introducing

new methods of diagnoses that run counter to the traditions of some doctors in that clinic.

Finally, the quaternary contradictions (4) exist between the central activity system and the

outside activity systems. The latter could be of four types: 1) an activity system of object

(e.g., diagnosing and treating patients), 2) a rule-producing activity system (e.g., the clinic

administration), 3) a subject producing activity system (e.g., doctors and nurses in a clinic),

and 4) an instrument producing activity system (e.g., company that provides drugs and

other medical instruments).

The fifth and last principle is the expansiveness of activity systems. As contradictions

arise, and changes take place, participants reconsider their object and motives, thus taking

an activity system to a new level of development. This reconsideration of the object and

motives of activity system results from the cycles of internalization - understanding the new

phenomena, and externalization - production of new ideas and problem-solutions based on the new understanding (Engeström, 1999a, 2001).

More on Contradictions

In his account of the learning activity of a child, Leont'ev, A. N. (1981) talks about the change of motives in two interacting activity systems. In his example, a child, whose dominant activity is play, naturally does not want to do homework, which belongs to an activity system brought in by a more culturally advanced representative - his parent. Thus, the child experiences a conflict between two motives: to have fun and to get a good grade, of which the latter is not desirable. By Engeström's (1987) definition, this conflict is a contradiction of tertiary level, in that the parent, a representative of a more culturally advanced activity, introduces the new object (getting a good grade) into the child's activity. To ensure the child's acceptance of this new object, the parent promises to let him play after the homework is done. This takes effect, but the child still experiences resentment and a conflict at the action level when completing the homework assignment because from the child's perspective his efforts to do homework do not yield desirable results. Thus, for the child, the conflict between two motives at the activity level still remains acute. Leont'ev suggests that this struggle is temporary, and that over time the object of the culturally more advanced activity will take over the child's dominant one.

In his scrupulous and a book-long discussion of the nature of learning activity, Engeström (1987) reflects on Leont'ev's example of the *external* activity system conflict. Engeström reaches to the roots of this conflict in the *inner* contradictions inside the culturally advanced activity system. He argues that the new motive of getting a good grade, present in the culturally advanced activity system, is not the right motive in the first place because it corresponds to the exchange value of the object, not the use value.

In schooling settings with a capitalist socio-economic formation, the primary contradictions in the elements of activity acquire the nature of use and exchange value (Engeström, 1987). In his example, text represents the object of learning. On the one hand, it can be studied in exchange for grades. On the other hand, it can be studied for meaningful use in real life. Instruments oriented towards exchange value require recall and memorization, whereas instruments that call for meaningful use of knowledge provide means for investigation and real-life problem-solving. Division of labor oriented towards exchange value calls for isolated roles, while division of labor oriented towards use value encourages cooperation. Community oriented towards exchange value produces a class of separate individuals, but when it is oriented towards use value, it creates a team of inquiry. Rules oriented towards the exchange value force competition and adaptation. Rules oriented towards the use value encourage risk-taking. Finally, a student as a subject is either a grade-maker when oriented towards the exchange value of the object, or is a sense-maker when oriented towards the use value of his or her object. Thus, an activity where the subject is oriented towards the exchange value of the object leads to alienation. An activity where the subject is oriented towards the use value of the object leads to inclusiveness and collaboration.

Engeström (1987) does not mean to say that all primary contradictions (contradictions within any of the six elements of the activity) are inherently contradictions between use and exchange values. In fact, he makes a point that the nature of these contradictions depends on the socio-economic formation of the given culture. However, even in his references to the socialist system in former Russia (such as the discussion of Leont'ev's illustration above), Engeström talks about primary contradictions as the dual nature between use and exchange value. The question is whether we can use this definition for any primary

contradictions, including those in the proposed study. I will use the following statement from Engeström (1987) as a guidance in my research:

when I here and later speak of capitalism, I do not imply that analogous contradictions [exchange vs. use value] would disappear in socialism. But I do imply that we cannot dump these two socio-economic formations under one rubric of 'industrialized societies'. The inner contradictions of activities in socialism require their own analysis. (p. 36)

This definition of primary contradictions in terms of conflict between exchange and use values within the academic context was confirmed in this study despite the fact that Iran is not strictly a capitalist socio-economic formation.

One important premise derived from the research is that contradictions come to existence at the level of actions (Barab et al., 2002; Bodker, 1996; Engeström, 1987, 1999a, 1999b; Mwanza, 2002), and that there are ways to identify them through "failures, disruptions, and unexpected innovations" within subjects' actions (Engeström, 1999a, p. 32).

In this respect, Barab et al. (2002) conducted a study that has much in common with the proposed study. The researchers investigated contradictions that arise in an astronomy course, where students constructed models of celestial bodies using a three-dimensional animation application. One of the contradictions that the study focused on was a contradiction between the object to construct accurately the required model of celestial bodies and the students' inability to do it because of the complexity of the software. The researchers video-taped and analyzed a number of actions that revealed an interesting dynamic. The students' actions moved from being directed towards the goal of 1) understanding how the 3-D application worked and 2) understanding the movement and relationships of celestial bodies. Thus, in the process of learning the subject matter of the

course – astronomy – the students had to go through a number of disturbances caused by their limited knowledge of the application and the subject matter itself.

In this study, the students went through a very similar cascade of actions, moving back and forth from the actions focused on content understanding to resolving disturbances with EFL. Barab et al.'s (2002) research is instructive in that their primary focus was on actions. In fact, they depicted the action triangle as Leont'ev or Engeström would depict an activity triangle with its six elements of subject, instrument, object, division of labor, community, and rules. They justified this approach by referencing to a personal correspondence with Engeström, who confirmed its theoretical consistency. Indeed, according to the theory, action can be performed either by individuals or a group of people (see Table 1). Because the students in Barab et al.'s (2002) study were working in groups, this solution makes perfect sense.

One should remember, however, that staying at the level of actions may limit the researcher from seeing the root problems because any actions are directed by motives at the activity level. In other words, without knowing *why* an action is being carried out, the researcher will miss the bulk of the data and may misinterpret the findings. Thus, Engeström (1999a) suggests the researcher move from the level of actions to the level of activity. In other words, looking at the level of specific learner's actions will help discern possible disturbances or innovations, whereas seeing the actual activity triangle will help define disturbances in terms of contradictions in the activity system. Put in Engeström's (1999a) terms, "[t]he analysis of the activity system may illuminate the underlying contradictions that give rise to those failures and innovations as if "behind the backs" of the conscious actors" (p. 32).

Another aspect that literature discusses without much variance is a duality inherent in any contradiction. Thus, at the primary level (within the six elements of activity system),

Engeström (1987) prefers to notate contradictions using the preposition "versus" to emphasize their dual nature. For example, in his discussion of learning activity in modern school-going, he identifies the primary contradiction in the object of activity as "text as dead vs. text in context" or contradiction in the subject (student) corner as "grader-maker vs. sense-maker" (p. 36). At the secondary, tertiary, and quaternary levels, the dual nature of contradictions can be expressed with the preposition "between". Thus, to extend Engeström's (1987) example with school-going, one may identify a secondary contradiction as a conflict *between* the learner's wish to work on an assignment individually (subject corner) and the teacher's requirement to work in groups (rules corner). Similarly, a tertiary contradiction could be a conflict between the student's object to earn a good grade in a foreign language course and the parents' admonishment to study the language to be able to use it in real life (object of a culturally more advanced activity).

Cultural Historical Activity Theory and Second Language Acquisition

Without a discussion that highlights the application of CHAT in SLA, this section on the theoretical framework would be incomplete. The number of studies on SLA carried out strictly within the theoretical framework of CHAT is limited unlike SLA research in the broader framework of sociocultural theory – the theory that is foundational to CHAT and that draws on the ideas of Vygotsky. What follows is a discussion of SLA research conducted within both sociocultural theoretical and CHAT frameworks. The former has significance to the proposed study in that many of its constructs share the same origin with CHAT and as such shed light on the present study.

Sociocultural Studies in Second Language Acquisition

One strand of research investigates discourse features of learners' engaged in communicative tasks. One interesting finding of this research is that certain discourse features, such as metatalk (off-task communication *about* the nature of the task), use of the learner's first language, and private speech are in fact the necessary features of language acquisition (Brooks & Donato, 1994; Brooks, McGlone & Donato, 1997; Yilmaz, 2005). This proposition runs counter to some cognitive-interactionist views that such discourse features are undesirable or, at most, tolerable side-effects. Sociocultural researchers, however, advance an argument that these discourse features are legitimate aspects of language acquisition because they 1) help establish a common goal for a collective action i.e. pedagogical task (in the case of metatalk); 2) act as mediational instruments (in the case of first language use); and 3) are manifestations of language internalization (in the case of private speech).

These findings relate to several important constructs in sociocultural theory, which also find their application in CHAT: intersubjectivity and regulation. Establishing a common goal in a collective action is referred to as intersubjectivity. Wertsch (1998) describes it as "the degree to which interlocutors in a communicative situation share a perspective" (pp. 111-112). Regulation refers to the mediational means that a subject uses when achieving a goal. This regulation can come from another usually a more competent person, which is termed as other-regulation, in which case, it also relates to the zone of proximal development discussed above. The subject can regulate him- or herself too without assistance from outside. One way we self-regulate ourselves is through private speech, which as was mentioned earlier, emerges in difficult cognitive tasks. There is a third type of regulation, called object-regulation. In language acquisition, it is most easily elicited through picture description tasks, where a learner is relying on the actual object (pictures) to facilitate the action of description (McCafferty, 1994).

Aljafreeh and Lantolf (1994) conducted a study on the types of regulation language learners employ. They set up a task where learners worked with a researcher (a competent user of the language) correcting errors in their essays. The researcher provided different degrees of assistance starting from most implicit to elicit self-regulation, moving to most explicit to elicit other-regulation. They identified five levels of transition from intramental, i.e. internalized to intermental, i.e. not internalized functioning (recall the discussion of intrapsychological and interspychological functioning of children in Vygotsky's works):

Level 1: learner unable to notice let alone correct the error

Level 2: leaner able to notice the error but not correct it even with intervention

Level 3: leaner able to notice and correct error, but only with help (under other-regulation)

Level 4: leaner able to find the error and correct it with little or no help. At this stage, the correction may be incorrect because the development is not yet fully intramental and not automatized

Level 5: learner becomes fully responsible for finding and properly correcting the error independently

The researchers summarized their findings in three stages: (I) levels 1-3 - other regulation, (II) level 4 - partial self-regulation, and (III) - self-regulated and automatized development.

Another strand of research considers the distinction between task as defined in the cognitive-interactionist SLA field and activity as defined within the sociocultural perspective. SLA researchers in the cognitive-interactionist camp conceive of tasks as being fixed variables, such as one-way or two-way tasks, closed or open tasks, which elicit differing types of language from the learners, hence a claim to predict the degree of language acquisition in different tasks (Long, 1989). Research using the sociocultural framework, however, reveals that the so-called tasks or "behavioral blueprints" (Coughlan & Duff, 1994,

p. 175) are in fact not very stable variables. They seem to differ from one time to another across the same participants. The implication is that learners are most likely to construct their own goal-oriented activities, different from what the teacher or researcher may expect. This finding was strongly corroborated by Roebuck (2000) in her study on how learners position themselves in teacher assigned tasks. She concludes that "the task represents what the researchers [...] would like the learner to do, and activity is what the learner actually does. Thus activity is how learners - as agents - construct the task" (p. 84).

It is important to note in the light of the previous discussion of CHAT constructs that this research deviates from the conventional operationalization of activity. It puts pedagogical tasks that are finite, short-term, and linear at the level of activity, whereas by definition, they belong to the level of actions (see Table 1). This, however, is not necessarily a theoretical inconsistency that the researchers overlooked. Vygotsky (1982a, 1982b, 1983) himself used the term activity (Russian: *деятельность - deyatelnost*) repeatedly in his works. However, it was not until Leont'ev (1975) conceptualized activity theory that we started to refer to activity as a construct distinct from action. Thus, while there appears to be some theoretical mismatch in this strand of research, the findings that the nature of pedagogical tasks are not presumably teacher-controlled as was sometimes believed are quite in line with the assumptions of CHAT.

Cultural Historical Activity Theory Studies in Second Language Acquisition

The above-reported SLA studies considered concepts and constructs in the broader framework of the sociocultural theory. The next body of research comes closer to the conceptualization of CHAT that this study follows.

One such strand of research concerns the higher psychological function of memory and how it plays itself out at the three levels of activity: operations, actions, and activity

(Table 1). In their study, McCafferty, Roebuck, and Wayland (2001) investigated vocabulary retention following the example of a math problem solving study by Zinchenko (1981). They conducted an experiment, in which the learners in the control group were given words for the essay and learners in the experimental group picked their own words for their own interview questionnaires and then interviewed each other. Using the data obtained, the researchers identified two categories of words: 1) those that were the objects of an action at least once, and 2) all the other words. Because in the three-tiered hierarchy of activity, goal-directed actions are controlled by consciousness unlike automated operations, the learners' recall was 100% in the follow-up multiple-choice quiz, unlike with the words in the second category with a 56% recall.

Other researchers looked at the shifts of subjects' motives as they were engaged in their activities, and how mediating factors such as rules, division or labor, instruments, and communities affected the development of the learners' activity systems.

In their well-cited case study, Lantolf and Genung (2002) describe how the motives and goals of a Ph.D. student in linguistics, a former colonel in the U.S. Army, shifted throughout the semester while she was taking a Chinese class. Originally, driven by the long-term "higher cognitive motives" (Lantolf & Thorne, 2006, p. 243) and the goal of learning Chinese, by the end of the class, she shifted to short-term "lower cognitive motives" (p. 243) and the goal of merely passing the class. The researchers identified the following factors that affected the subject in this study: 1) her history as a Ph.D. student and a military person, 2) the rules of the community, and 3) division of labor.

In another case study, the student's motives and goals shifted in the opposite direction: from unwillingness to participate in a computer-mediated communication (CMC) activity to the intrinsic desire to keep engaged in the activity (Thorne, 2003). Her shifts occurred due to switching to a more familiar artifact of instant messaging and due to the re-engagement

of her French CMC partner. As a result, the amount and depth of learning that the student experienced within one week of very involved interaction were enormous. Another study, similarly, reports that when the learner's motives shift, the division of labor, rules, and object of the activity shift too, resulting in a qualitatively and quantitatively different interaction, which affords more quality language internalization (Lantolf & Ahmed, 1989).

Thorne's (2000) study on the use of CMC in a French FL class revealed that the students' class activity was mediated by their prior histories from online communities, i.e., the outside activity systems. Computer-savvy students tended to form a sub-culture in the class CMC community to distinguish themselves from the classmates that were not as experienced in participating in online communities. Thorne is quick to note that this finding runs counter to the conclusion made by the previous research that CMC unlike face-to-face tasks, tends to equalize students' participation (Sullivan & Pratt, 1996; Beauvois, 1998).

A recent study by Jin (2007) corroborates many of the above made conclusions about the unique insights that CHAT provides in SLA research. Her study investigated ESL students' activity systems as they engaged in peer-revisions tasks with their classmates via IM tools. Jin's findings confirmed the above-cited research (Coughlan & Duff, 1994; Roebuck, 2000) that the same task is conceived of differently by individual participants at every given moment. Each participant in her study had their own activity systems with differing motives and goals that changed from one class and task to another. Further, her study supports the findings of Storch (2004) that some students can be engaged in multiple activity systems at the time, such as the writing task and having fun in an instant messenger with other class members. Next, similarly to Thorne's (2000) study, Jin found that her participants differed in their individual activity systems due to their histories and age differences, which impacted the participants' goals and motives. Finally, her results in a way support the claim of McCafferty et al. (2001) that actions and operations cognitively affect

learners in a different way. In Jin's study, depending on prior experience with instant messaging, the participants were at different levels of the class level activity system. For a participant with poor typing skills, typing in itself was an activity, while for others, typing belonged to the operations level, and as such they could direct their conscious attention to discussing their classmates' papers.

Basharina (2007) comes closest to the present study with her work on contradictions in an international telecollaboration project where three groups of English learners from Russia, Japan, and Mexico interacted with each other in an asynchronous forum discussion throughout one semester. Broadly speaking, the researcher identified three types of contradictions: 1) intra-cultural (students' decision between making or not making a forum post, between using formal or informal register), 2) inter-cultural (unequal contributions from different groups of students, differences in understanding genres and plagiarism, and topic selection), and 3) technology-related contradictions (too many messages, slow pace of interaction in an asynchronous environment, and gender confusion).

There are some striking theoretical differences, however, between Basharina's study and this present research. Basharina (2007) does not attempt to investigate the relationships between the four levels of contradictions. Further, methodologically she chose not to identify contradictions through disturbances and innovations. Rather, she conceives of them as mere problems that nevertheless do have a dual nature. This may not necessarily be a theoretical misinterpretation in her study. However, I would still argue it is a simplification of a much more complex theoretical construct of contradictions and their role in the development of language learning activities. It is also a simplification in terms of removal of certain fundamental CHAT principles, namely, the historicity and expansiveness of activity systems (Engeström, 1987; 1999a; 2001; Leont'ev, 1975). Thus, whereas practically her research sheds light on typical *problems* that international telecollaborators

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may face, theoretically it does not provide much insight about the nature of expansion of telecollaborative activities, or let alone the nature of the language acquisition activity.

Summary of the Theoretical Framework

To conclude this section on the theoretical framework, CHAT provides much guidance for the methodology of this study. It identifies the units of analysis, directs the focus of investigation, and describes the relationships among the participants of the study and many other related mediating factors. However, as a developing theory, CHAT needs further explication and grounding. For example, we still know little about the nature of transformation, particularly, the historical stages of development (Davydov, 1999; Engeström, 1999a). The distinction between individual and collective subject vs. community is another issue needing further work (Davydov, 1999). Methodologically, there are challenges capturing and depicting the very dynamic nature of activity systems over time (Engeström, 1999a; Mwanza, 2002; Nardi, 1996b). With this in mind, the study takes a mix of grounded and theory guided approach. One also needs to be cautious about definitions of constructs. Some studies refer to activities, while meaning actions by CHAT definition (Coughlan & Duff, 1994; Roebuck, 2000, just to mention a few). There is an inconsistency in the use of object and goal. From the review of Vygotsky's work above, we know that subject reaches out to the object. And yet in CHAT's conceptualization, object belongs to the level of activity, while goals belong to the level of actions. Overall, however, these issues are not critical and relate to either a lack of coordinated effort in this is fast growing community of sociocultural and CHAT users and researchers or a lack of theoretical foundation, which this study attempts to address.

The ultimate purpose of this section is to lay the foundation for the theoretical framework and introduce central concepts that will or may emerge in the study under

consideration. Having done this, I will now proceed to the discussion the other two related areas: content-based instruction and distance education. In the final conclusion, all three areas will be brought together as a projection of what this study will investigate in terms of contradictions in the activity systems of learners.

Content-Based Language Instruction

Introduction to Content-Based Language Instruction

To my knowledge, no studies have been reported on college-level CBLI courses carried out within the framework of sociocultural theory, let alone CHAT. This is surprising given the attention sociocultural theory pays to language as a primary mediating instrument in human actions and activity. Sociocultural theory and CHAT explain the phenomenon of CBLI very compellingly. According to the founding premises of these theories, as man reaches the object of his action, the mediating means that he employs improve to facilitate the transformation of the action (Leont'ev, 1975). This is how primeval humans in their attempt to accomplish everyday actions improved their tools for hunting, fire making, and the like. In CBLI, the object of activity is the subject matter, whereas the linguistic medium of instruction is the mediating instrument. In the process of transforming the object, the subject also transforms this mediating instrument to more efficiently perform actions and transform the object. Thus, the legacy of sociocultural theory and CHAT provides unique insights in interpreting the findings of CBLI research.

Content-based language instruction (CBLI) emerged in foreign language (FL) education as a communicative based language teaching approach in that it places more emphasis on the meaning than the form of the language. Some English for academic purposes (EAP) contexts have shown a particular interest in the models of CBLI that use

the subject matter of school courses as a means for learners to acquire academic competency in a second or foreign language.

In particular, some reports in the EAP domain indicate that there are serious gaps due to the inadequate preparation of English as a second language (ESL) students for mainstream English-medium college courses. Rose (1983) and Horowitz (1986) argue that typical assignments for university/college courses rarely included personal essays, where students create personal meanings, unrelated to the reality shared with the reader. Rather, students were commonly asked to argue for a position based on the information received in the course. Canseco and Byrd (1989) add that such students are expected to write in different formats following the guidelines of their professor.

In a more recent study, Leki and Carson (1997) discovered some serious gaps between the demands placed on students in EAP courses in the U.S. such as Intensive English Programs and those in mainstream college courses. They found that most typical assignments in EAP composition classes (personal writing) turned out to be least represented in mainstream university/college courses. Conversely, the most typical assignments in university/college courses (which they refer to as content-responsible writing) received the least attention in EAP classes. They also discovered that many ESL students had difficulty writing under time constraints and integrating information from textbooks and articles in a paper. In their earlier study, they found that ESL students lacked practice with speedy production of writing as well as exposure to a wider variety of academic discourses, besides essays (Leki & Carson, 1994).

Many of the above issues with EAP courses, where students focus on language learning per se and are not held responsible for content learning, are addressed in CBLI courses. This proposed study will look at a bridge course that aims to overcome this issue. While some challenges expressed above, such as timed writing, may not be related to the

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distance students in the given study, many other concerns still appear valid. One broadly defined concern could be referred to as differences in academic cultures.

Much of the above-said relates to the conflicts between instructors' expectations and students' perceptions of those expectations. Put another way, the culture of language learning differs significantly from the culture of college level subject-matter learning. In the former the emphasis is placed on the language, while in the latter it is on the subject matter. The bridge course in this study, which serves as a transition from language to subject-matter courses, placed much demand on the students in terms of the subject matter. What this section provides, then, is a discussion of CBLI courses similar to the bridge course under investigation, which will conclude with a summary of issues identified in the literature. The section that follows will first provide a broad definition of CBLI so as to place the current bridge course in the context of the literature. Then, the discussion will proceed to the CBLI cases divided into three categories: English as a second language, English as a foreign language, and foreign language CBLI cases.

Types of Content-Based Language Instruction

Within higher education, CBLI has different manifestations. Back in the early years of CBLI on the North American continent, Brinton, Snow and Wesche (1989) identified three models of CBLI: theme-based, sheltered and adjunct (see Figure 5).

Language class   Mainstream university class

Theme-based   Sheltered   Adjunct
model   model   model
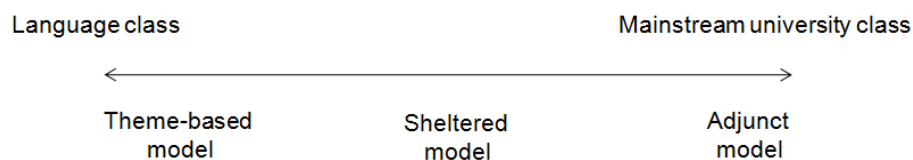
Figure 5. Continuum of content-based instruction. Adapted from Brinton, Snow, Wesche (2003).

According to their definition (Brinton, Snow & Wesche, 2003), all three models integrate language skills in one course, but they differ in terms of the emphasis they place on the language vs. content. The theme-based model prioritizes language instruction over the content, where the latter could be any theme of general interest to the students (e.g., American holidays, Mass media today, etc.). As students engage in reading, writing, listening, and speaking activities on a given theme, they learn relevant grammatical structures and vocabulary.

The sheltered model is dramatically different in that its primary objective is not the language, but the content - a subject matter of a mainstream university/college course. Because all students in the sheltered model have limited language proficiency, the instructor provides extra support in the form of modifications, such as repetitions, use of visuals, slower pace, and simpler language.

Finally, in the adjunct model, students learn the subject matter of a university/college course together with native speakers of the target language. Because the demands and expectations in a class like this are higher than in a sheltered course, students with limited language proficiency attend a parallel, i.e. adjunct course. This class is taught by a language instructor who helps students better understand the content of the mainstream course and overcome linguistic, cultural, and discoursal challenges as students complete their assignments.

Since these three models were first introduced to the SLA field, many other developments have taken place in the CBLI domain. In this sense, the fact that Brinton, Snow, and Wesche (1989) used the analogy of a continuum to describe the relationship among three models (Figure 5) was rather foresighted. Many higher education institutions have since developed CBLI models that fall on the continuum around and between sheltered and adjunct models (to be discussed further).

As regards this particular study, it focuses on the CBLI model in the middle part of the continuum (Figure 5), and as such the bridge course under investigation is primarily a content course, with the secondary goal being the development of academic English competency.

Content-Based Instruction Cases

The following section discusses CBLI examples reported in the literature. One should note that theme-based courses, as defined by Brinton, Snow and Wesche (1989), have not been included in this review due to the exclusive focus on the CBLI models that prioritize content over language learning. The deciding factor for the inclusion of reports in this review is the role of the subject matter. Only those studies were included where the course content appeared critical for the learners either for professional or academic reasons. These studies are categorized by the school or program context: English as a second language (ESL), English as a foreign language (EFL), and other foreign languages (FL).

English as a Second Language Cases

Most of the reports in CBLI come from schools and programs in the United States and Canada. Probably one of the most commonly cited cases is the University of Ottawa, where in the 1980s, the school launched a series of sheltered and adjunct model classes for mainstream university courses, such as Psychology, Anthropology, History, and the like. Students had a choice of taking the course in their first language or second, English or French. The experimental studies conducted in this setting showed consistent positive results. The students taking these mainstream courses in their non-native languages, either French or English, showed equal amount of learning of the subject matter compared to the native-speaking course sections, and at least the same language gains compared to

intensive language programs at University of Ottawa (Burger, Wesche, & Migneron, 1997; Edwards, et al., 1984; Hauptman, Wesche & Ready, 1988).

Another well-cited setting is the UCLA, where in 1977, the university established a Freshman Summer Program (FSP) to help students with low English proficiency transition to mainstream university courses. All courses followed the adjunct model of instruction, so for each mainstream course, the students had to attend its language section. Similar to the findings from the University of Ottawa, these results demonstrated effectiveness of the courses, measured by the perceptions of the FSP graduates taking regular university courses, as well as by the results of the experiments comparing FSP students with ESL students in the Intensive English Program (Brinton, Snow & Wesche, 1989; Snow, & Brinton, 1988). Specifically, the FSP students performed equally well on the paper despite the fact that the FSP students had in fact a lower proficiency compared to the ESL students.

Kasper (2000) shares a CBLI experience different from those above. Her students belonged to a low proficiency level taking a class in History of Psychology. To ensure content learning, Kasper introduced a fiction story at the beginning of the course that laid the foundation for the forthcoming academic readings. According to the author, the CBLI students outperformed regular ESL students in skill-based classes on the reading battery and on the essay writing task. One would take caution, however, in interpreting the findings due to the limited information provided on the procedures of the experiment.

Her earlier report on a study that combined experimental and longitudinal methods convincingly shows that CBLI students outperform non-CBLI ESL students both in short-term goals measured with a post-test and in long-term success in college courses and rate of graduation (Kasper, 1997).

English as a Foreign Language Cases

Unfortunately, very few CBLI studies have been reported from EFL contexts despite the fact that many schools in non-English speaking countries, particularly in Europe, adopt English as a medium of instruction.

The Middle-East Technical University in Ankara is one such example. The extensive school evaluation that Akunal (1992) conducted revealed some serious issues with English-medium instruction at the university. Despite the fact that students were mostly satisfied with their receptive skills, they reported that the faculty did not help develop their speaking and writing abilities. The faculty in turn saw this approach viable and did not seek collaboration with language instructors who could facilitate language learning. One may question the credibility of the author due to some inconsistencies in defining such constructs as sheltered and adjunct models or comprehensible input. However, the claims overall appear valid and well-justified.

Unlike the previous study, the experience from the University of Catalonia in Barcelona, Spain, proved more successful (Kerans, 2001). The report of the Sustained-Content Language Teaching program for health science students is not a study per se, but the fact that this program has stood the test of time is telling.

Foreign Language Cases

The reason for including language other than English in this review is the extensiveness of research in this area. While the target language is indeed different, the context in which the language is used is still the same - the academic setting.

The Foreign Service Institute (FSI) in Monterey, CA has been a home to many CBLI courses of various models in a number of FLs. FL learners in this setting are professionals preparing for official work abroad in the areas of consular affairs, military, economy, and politics. The reported CBLI courses in Russian (Leaver, 1997), Serbian and Croatian

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(Corin, 1997), Indonesian (Chadran & Esarey, 1997), Arabic (Ryding & Stowasser, 1997), and Spanish (Stryker, 1997) had overall positive results in terms of content learning and advances in the target language. A common challenge identified in these studies concerns learners of lower proficiency who ended up taking classes higher than they could afford linguistically. Well-designed courses specifically for beginning learners proved successful though (Corin, 1997; Leaver, 1997). This implies the importance of placing students in the proper levels and designing courses that target learners' true proficiency level.

The experience of the FSI programs proved so successful that it spread to other schools. Klahn (1997) shares her experience of a Spanish program at the Columbia University, which was built on the example of the Spanish program at FSI (Stryker, 1997). The graduate students at the School of International and Public Affairs acquired extensive knowledge in the subject areas and performed better in terms of the language gains compared to previous non-CBLI courses (Klahn, 1997). This experience in later years was replicated in the Russian and Portuguese programs at Columbia University as well as in other universities in New York.

A variety of other schools and programs in the U.S., Canada, and Australia reports consistent findings supporting the viability of CBLI courses. Those include the FL across curriculum program at SUNY-Binghamton (Straight, 1997), the Monterey Institute of International Studies (Shaw, 1997), the French program for journalism students at the Ohio University (Vines, 1997), a course in French at the Brisbane College of Advanced Education in Australia (Chappell & de Courcy, 1993), the Canadian French teacher immersion programs at the Simon Fraser University (Brine & Shapson, 1989; Day & Shapson, 1993) and the University of Ontario (Majhanovich & Gray, 1992), the Greek Mythology course at a U.S. university (Giaugue, 1987), and the foreign language immersion program at the University of Minnesota (Klee & Tedick, 1997).

Most of the research reported above may not always be as rigorous due to the fact that many CBLI studies come from teaching practitioners. To summarize, much of this research celebrates the CBLI approach and provides supporting evidence. Others do not fail to discuss challenges of this curriculum (Akunal, 1992; Klee & Tedick, 1997; Shaw, 1997; Stryker, 1997; Chadran & Esarey, 1997). What is important in the context of this study, however, is the synthesis of the challenges and ways in which they were overcome (see Table 2).

Table 2

Challenges and Recommendations from Literature on CBLI Courses

Challenges	Recommendations
Lack of coordination between instructors and other important agents	Provide administrative support
Unsupportive or untrained instructors	Provide instructor training and education
Challenging content	Modify instruction and materials by simplifying the language and using facilitating strategies
	Place students according to proficiency levels
	Sequence courses from easiest to most complex content- and language-wise
	Ensure learners' sufficient background knowledge of the subject matter
Lack of improvement in speaking	Give speaking and written assignments and

and writing	provide sustained and structured guidance on them
Too complex language	Proper placement of students by their proficiency level
Disengagement of students	Include authentic materials and tasks
	Develop learners' analytical and critical thinking skills
Learners' misunderstanding of or complains about nature of assignments and workload	Set clear expectations at the beginning of the course

The information summarized in Table 2 is an outline of typical challenges and corresponding recommendations applicable to CBLI courses. Challenges and recommendations are theoretically different from the contradictions and consequences of this study. However, they provide an overview of disturbances that are to be anticipated in CBLI courses.

Distance Education and Language Instruction

Introduction to Distance Learning and Language Instruction

The scope of the literature involved in this section varies from general discussion of distance education (DE), its concepts, history, and current status to more specific language learning and teaching issues. Given the wealth of resources on DE, I limit myself only to the discussion of central issues and trends in DE as they pertain to the current study. Literature on language learning and teaching in DE, however, is less abundant, and here I am able to highlight most of the existing themes in the literature. The summary ties together major

themes of this section and establishes preliminary connections among these themes and the constructs of cultural historical activity theory.

History and Concepts of Distance Education

Moore and Kearsley (1996) describe the evolution of DE as spanning across three generations. The first generation represented correspondence and independent study, and it dates back to the nineteenth century. Among pioneers was Isaac Pitman who started a correspondence shorthand course in England in 1840. A few years later correspondence courses spread to France and Germany. In the U.S., it was the Chautauqua Institute in New York that officially established program awarding degrees by correspondence methods. The emergence of independent study, introduced in the 1960s by Wisconsin-Madison professor Charles Wedemeyer, also belongs to the first generation of DE, according to Moore and Kearsley (1996). Today, independent study is also referred to as learner autonomy, which implies providing learners the freedom to establish their own timeline and pace of study and be self-directed learners. Despite the fact that this philosophy was first introduced in the U.S., it does not seem to be prevalent in most DE programs in this country, a concern raised by Saba (2005), Gibson (1998b) and a number of other scholars. This discussion is yet to follow in the remaining part of this section.

The second generation of DE belongs to the middle of the twentieth century. According to Moore and Kearsley (1996), a major shift occurred due to the collaborative efforts of Charles Wedemeyer, who had just started the Articulated Instructional Media Project at the University of Wisconson, and a few advocates of DE in England. In 1969, the British Open University was established. This school differed significantly from previous DE models in that all of its students were distance learners and that it was an autonomous and self-financing, degree-granting distance university. Moore and Kearsley credit Professor

Wedemeyer for this achievement because he was the one who indicated three flaws of DE that they could not overcome in the U.S.: lack of control over faculty, funds, and academic rewards (degrees and credits). The British Open University purposefully conceived its structure to eliminate these flaws at the root. Many other countries followed the model of Great Britain and have established open universities since then. Examples include the Athabasca University and British Columbia Open University in Canada, the Open University of Israel, the Terbuka University in Indonesia, a number of open universities in India with the Indira Gandhi National Open University being the largest and most influential, and many more (Guri-Rozenblit, 1993; Muirhead, 2005; Panda, 2005; Saba, 2005). Many open universities distinguish themselves not only by capitalizing on learner autonomy through flexible curricula, but also by their capacity to reach out to diverse groups of the population who may not be eligible for more conventional types of schooling with their rigid admission requirements.

Besides the emergence of open universities, the second generation of DE was also marked by a host of groundbreaking technologies: radio and video broadcasting via satellites, which resulted in teleconferencing capabilities. Production of quality instructional materials, courses, and programs required an enormous amount of effort, money, and time, unaffordable for a single institution. Hence, at this stage, DE witnessed the formation of a number of consortia that represented a number of universities and organizations working together to produce instructional resources so as to share them for the common benefit.

At the turn of the twenty-first century, DE is transitioning through the third generation of its development. This period is marked by the emergence of Internet and multimedia technologies. These technological achievements provide many affordances for smoother collaboration among learners and teachers and more independent and yet guided learning through multimedia products. To add to this historical overview by Moore and Kearsley

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(1996), this period has also allowed researchers to direct closer attention

to the characteristics of distance learners and brought about a need for a post-industrial

and most-modernist approach to DE (to be discussed further).

Today, DE is becoming a norm across the globe. A single university in India, the Indira

Gandhi National Open University, serves almost 1.5 million students including a large

population of marginalized people (Panda, 2005). In Indonesia, the Terbuka Open

University had an enrollment of some 350,000 students according to a report in 1994

(Muirhead, 2005). In Africa, approximately 43% of the students in higher education are part

of distance programs (Badat, 2005). In their report commissioned by the Sloan Consortium,

Allen and Seaman (2006) state that in the Fall 2005 semester, some 3.2 million higher

education students in the United States were taking at least one distance

course. The steady growth in the enrollment of DE learners in the U.S., however, is now

slowing down. In general, DE learners constitute approximately 17% of all students in

higher education in the U.S. This number is 25% in India (Panda, 2005). A big portion of the

DE student body includes undergraduate or vocation-oriented students. This trend seems

consistent across many countries and continents: the United States, Africa, and Australia

(Badat, 2005; Calvert, 2005; Seaman & Allen, 2006). Most DE courses and programs are

offered by single or mixed mode mega-universities; this trend again appears global (Badat,

2005; Calvert, 2005; Panda, 2005; Seaman & Allen, 2006).

Issues in Distance Education

This segment of the literature is important in that it highlights the most pressing issues

in DE. It sets the stage for a more focused discussion of language learning and teaching in

DE, and further for the purpose and questions of the actual study proposal. The issues are

many, and they overlap. An effort was made to select those that are most informing for the

present study. They include: the outreaching capacity of DE, a shift of attention from technologies to pedagogy and learners, learner variables, and typical barriers in DE. All the references in this segment come from the most renowned experts in the field of DE working in different parts of the world.

The outreaching capacity of modern DE is one of the victories of education. It is no surprise that distance and open education are so widespread in developing areas such as Africa and India, where the number of DE learners is much higher than in the U.S., as is mentioned above (Allen & Seaman, 2006; Badat, 2005; Panda, 2005). This emancipating power of DE benefits all deprived and challenged pockets of global population: marginalized groups, such as females, minority groups, people from remote rural areas, financially challenged people, and those that are restricted due health, family, or work issues.

This outreaching aspect of DE is not without problems. Badat (2005) brings up a concern of a Ministry of Education in Africa about the quality of DE since it has become so widespread and easily accessible. There are on-going problems with the lag of technological advances in many developing countries, as well as in rural areas of more developed nations (Badat, 2005; Panda, 2005; Rennie, 2003). This outreaching capacity of DE has direct implications for the proposed study, where the Iranian target learners are marginalized and deprived of higher education on the grounds of religious beliefs. They have no other choice but to receive education via DE. This issue was raised by Paul (1990) in his discussion of learners (primarily using Canadian and Yugoslavian examples) who can only access education at a distance, and as such are forced to exercise learning styles that may be alien to them. In other words, the outreaching capacity of DE is a double-edged sword, and this may play out in the online course under investigation in the form of a contradiction.

Another issue that stands out in the current literature is an awareness of the overemphasis on technology in DE. Jegede (2000) uses an analogy of the marriage of technology and distance/open education, which is now nearing the end of its honeymoon period, when the euphoria of using technology is suddenly going away. Thus, one of his main theses is that educators should be cautious about the bells and whistles of technologies if they are to meet their pedagogical goals effectively.

Saba (2005) approaches this issue from a slightly different perspective. Talking about the situation in the United States, he brings up a social dimension to DE, which has been missing so far due the prevalence of the scientific paradigm in education that emphasizes the technological attributes of DE. Drawing on the works of other scholars, Saba makes a case that we are about to embark on a new model of DE. Until now, education has been built on the principles of the pre-industrial and industrial models. In the former, a teacher develops and delivers courses on his or her own. In the latter, administration comes into play to routinize the development and delivery of education by introducing division of labor, adding rigid timelines, standardized scores and methods of instruction. Saba argues that these two models do not fit the new demands. Learners need flexibility. Instead, a post-industrial, post-modernist view of DE is needed, where students are in charge of their own learning, create their own objectives, and set their own pace and time-line, and where current learning management systems such as Blackboard and WebCT are replaced with those that are driven by artificial intelligence, which guides the learner about possible courses and paths of action. This view of DE includes the following features according to Garrison and Anderson (1999, cited in Saba, 2005): maximized interaction, focus on meaningful learning outcomes, maximized active learning, flexible design, a systems view in its administrative affairs, and sustaining a distributed architecture. Interestingly, Saba believes that that small research schools are more likely to adopt this approach than mega-

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universities that are caught in the loop of industrial model of education. It appears that he urges for DE to consider some of the practices and principles that open universities have been implementing for the last half-century.

This concern of overemphasis on technology may have some bearing on the proposed study. Going back to Jegede (2000), he talks about cultural border crossing when delivering education via distance. Technology that is used successfully in one country may cause conflicts in the existing schema of the learners in another culture. In that case, accommodations will have to be made to the point of changing the conventional technology to better meet the pedagogical needs. Put another way, in the content-based course under investigation, uses of technologies will have to be given due attention as possible sources of conflict in the existing schemata of the target learners.

The next issue closely pertains to the above mentioned shift from technological to learner-centered concerns. White (2005), a leading expert in distance language learning and teaching, was one of the contributors to a special issue in the *Distance Education* journal on the state of DE in the world. Her call in that paper is for consideration of learner-related issues in current DE. She draws on an extensive body of literature to make her point that DE learners are a complex phenomenon, and in order to succeed in DE, educators must consider this phenomenon. Much of this complexity comes from considering the learner's perspective. This emic view provides a totally different picture of learners.

One of the scholars that White (2005) brings up in her discussion is Morgan (1995) who raises the issue of student motivation. He refers to the notion of deep vs. surface learning proposed by Ramsden. According to this distinction, if a student takes a deep approach to learning, he or she has an intention to understand, unlike a surface student whose intention is to complete learning assignments. The former "focuses on what is signified", while the latter "on the signs", i.e. the text itself (p. 56). The former relates to

previous knowledge and attempts to apply new information to real life, whereas the latter tries to memorize information in order to meet assessment demands. While for the former, the learning is self-directed, for the latter it is imposed. This dichotomy could be applied to Engeström's (1987) discussion of use and exchange orientation in the primary contradiction of a learning object. When students are oriented to the use value of learning, they are genuinely interested in learning. Conversely, when they are oriented towards the exchange value of the object, they learn for the sake of a grade or other surrogates of learning. Morgan's thesis is that educators should help their DE learners acquire a deep approach to learning, and there are ways to facilitate it by means of certain types of tasks, assessment, providing students some freedom, and the like.

Morgan has been in the DE field since the 1970s, and one of his influential contributions to this field is the theory of transactional distance. Morgan (1993) set out to gather a large body data from multiple distance schools delivering instruction via different modes, such as radio, TV, mail, and computer solutions. The result of his extensive research is a model that explains the interaction between distance learners and the distance environment. He concludes that there are three factors that affect learners' success in the distance environment: course structure, dialogue, and learner autonomy. The course structure (S) is the amount of control that the course design imposes on the learner. Dialogue (D) is the interaction between the learner and the instructor. Thus, there are two continua along which distance course design can be placed, which result four ends of the continua: -D-S, -D+S, +D+S, +D-S. Finally, autonomy refers to learners' ability to self-regulate their learning processes, evaluate themselves, and set goals. Thus, the transaction distance increases as structure increases and dialogue decreases. According to this model, autonomous learners function successfully with great transaction distance, i.e. with little control and dialogue in the course design.

Another prominent researcher who investigates characteristics of distance learners is Gibson (1998b). He maintains that much if not most of the success in distance education is defined by students' academic self-concept. He identifies process-related and content-related factors that shape students' self-concept. Among process-related factors are: empathy of the professor, familiarity with the procedures, sense of accomplishment, ability to manage multiple social roles, and study skills including reading competency. Content-related factors include: awareness of prior knowledge, familiarity with course expectations and format, and feedback among other things. Content-related factors seem to be able to override the process-related ones. Put another way, if a course is challenging in terms of content, students' self-concept will diminish even if the process-related factors are positive. To enhance DE learners' self-concept, he proposes student orientations, workshops on study skills, transparent course expectations, samples of assignments, feedback from instructor, initiated contact from instructor especially at the beginning of the course. Gibson points out that distance learners' should be given opportunity to clarify for themselves their own goals and needs and shape their course experience accordingly. However, the emphasis on learner autonomy in a distance course can also be inhibiting if the student does not have adequate study skills.

It is interesting to note that Gibson (1998b) recognizes the complex character of academic self-concept. He stresses that this construct is a "situational attribute ... with specific institutional factors, emerging as influences" (p. 71). This multifaceted and dynamic nature of academic self-concept is reminiscent of the CHAT perspective that too underlines the complex and constantly changing nature of human development. In fact, in a paper about the nature of context of distance learners, Gibson (1998a) draws a parallel between Vygotsky's understanding of individual development and ecological systems theory developed by Kurt Lewin and Urie Bronfenbrenner. Given the theoretical

affinity of these two theories, I would like to briefly discuss how Gibson applies ecological

systems theory to understand the context of distance learners.

Ecological systems theory views humans interacting in terms of four system levels:

microsystems, mesosystems, exosystems, and macrosystems, each inserted into the other

much like a Russian doll. Gibson (1998a) says that at the microsystem level, distance

learners belong to certain *immediate* environments: distance course environment,

workplace, family, and a circle of friends. At the mesosystem level, these microsystems

interact in either facilitating or inhibiting ways, thus impacting the learners' development in

the distance course. Exosystems belong to a more global level, which the learners are not

directly included in but still experience certain influences from. They may include the

neighborhood, mass media, government agencies, transportation system and the like.

Finally, at the macrosystem level, the learners experience "overarching institutional patterns

of the culture and subculture, such as economic, social, educational, legal and political

systems of which micro-, meso- and exosystems are the concrete manifestations"

(Bronfenbrenner, 1977, cited in Gibson, 1998a, p. 116). Thus, using ecological systems

theory, Gibson (1998a) makes a point that researchers need to re-consider their

understanding of the distance learner context in a much broader and more dynamic and

interacting sense. This perspective allows us to see additional, often hidden forces that

exert inhibiting or enhancing influences on the distance learner from multiple interacting

systems. From a practical standpoint, Gibson suggests: making meaningful connections

between course assignments and the learners' workplaces; considering learners' desire to

have another life apart from school life; adjusting to seasonal differences in learners'

lives; and becoming aware of possible conflicting values of education and gender roles in

the learners' environment. In other words, Gibson's (1998) thesis is for DE educators "to

consider how the context might be seen as a partner in teaching and learner support" (p. 121).

This view of the context is strikingly similar to that of CHAT. Given the any-time-and-any-place nature of distance learning, the researcher's task is to dig deep. This has certain methodological implications: prolonged and on-going investigation of distance learners, attention to detail, an emic perspective, and consideration of multiple forces affecting activity learners' systems, much in line with what White (2005) and Morgan (1995) said above. Gibson's (1998a) contribution also allows us to infer a presence and interaction of different activity systems and their objects: activity systems of learners' families, work places, and friends, and the inevitable inner and external contradictions arising from this interaction.

Another learner variable that White (2005) talks about is learner autonomy. The aforementioned Paul (1990) looks at this issue from the perspective of open learning institutions. He urges open universities to take charge in preparing their learners to become autonomous, self-directed, and independent. Some of the means he discusses include instructional design, delivery, and students support mechanisms. Anderson and Garrison (1998) talk about learner autonomy in the context of meaningful learning, which is achieved when the balance of communication, control and collaboration is established. Regarding control, they state that "[t]he issue of control will be radically challenged in higher education" (p. 110). This reiterates the above made point made by Saba (2005) when he refers to Morgan's distinction between autonomy and structure.

This section ends with a discussion of barriers in DE. In a sense, this theme summarizes the points raised above in terms of specific problems they breed. On the other hand, the theme is also in line with the central focus of the current study, i.e. contradictions in activity systems of DE learners.

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Yorke (2004) discusses barriers in DE in the context of student drop-out and persistence rates, which by itself is a large area of investigation. He shares results of two major survey studies on barriers to persistence: 1) Yorke (1999) and 2) Davies and Elias (2003, cited in Yorke, 2004) which in total involved 4,000 full- and part-time students, including those who had already left their program by the time of the survey. The results of the studies are strikingly corroborative. Most cited reasons for early departure from programs included: wrong choice of study, institution, or course; academic, financial, and personal problems; poor quality of the student experience, unhappiness with the social environment, and low satisfaction with institutional provision. Further, he provides a few possible factors that may help maintain student persistence: a sense of belonging; student engagement; clear expectations at the marketing stage; social aspect; frequent formative assessment; and use of interim failure for learning purposes. This last recommendation is especially pertinent to the current study. Yorke (2004) says that "interim failure may be a stage— perhaps a necessary stage—on the journey to terminal success" (29). This thought reiterates the idea that any contradictions in activity systems of learners are able to take the development cycle to the next level of provided they are resolved properly.

Another well-cited research on student barriers in DE belongs to Garland (1993). In her ethnographic study, she investigated 30 persisting and 17 withdrawing students in five distance courses at the University of British Columbia. Results revealed four categories of barriers: 1) situational barriers (poor learning environment and lack of time), 2) institutional barriers (cost, institutional procedures, problems with course scheduling and pacing, problems with tutor assistance, instructional design problems), 3) dispositional barriers (lack of clear goal, stress of multiple roles, time management/procrastination problems, conflicts in learning styles, self-actualization needs, i.e. adult pride, psychological, social and economic factors), and 4) epistemological barriers (too technical or theoretical content,

internal epistemological gap between content and expectations, lack of personal relevance and prerequisite knowledge).

Language Instruction in Distance Education

Distance language instruction has been around for some 150 years, when Charles Toussaint and Gustav Langenscheidt started presumably the first correspondence language course in 1856 (Moore & Kearsly, 1996). More recent discussions of distance language instruction took place around the 1970s and 1990s with the emergence of new types of technologies. Selman (1984) provides a brief history of distance education in Canada, where from 1977 through the 1980s, a number of distance programs ran in Ontario, Alberta and at the Open University in British Columbia. The primary technological media included telephone, audio-recordings, print material, and radio. But, as the literature suggests, the hotbed of language distance education has been Europe. For example, Fesl (1993) and Bates et al. (1995) discuss the results of a Europe-wide project that lasted from 1991 to 1995, whose goal was to establish a virtual European Open University Network. The project was an experimental series of at least 15 telematic distance courses offered to over 1,400 students in 12 European countries, 60 companies and involved design, development and implementation of new technologies: satellite TV, first computer conferencing, videoconferencing. Much of this endeavor placed focus on developing a cost-effective system for multimedia design with authoring capabilities. At about the same time, the Open University in the U.K. started its distance language programs with similar technologies at hand (Hampel, 2003). Due to ongoing advances in technology, the field of distance language education continues to evolve rapidly. What follows is an account of some of the recent discussions in this area: 1) technological aspects, 2) quality of DE

research in language learning and teaching, 3) cross-cultural issues, 4) online writing courses, 5) content-based, task-based and 6) English for specific purposes courses.

As in the general field of distance education, technology related reports tend to lead the discussion in distance language education. One such strand is the issue of multimodality, which provides at least three modes of communication: visual, verbal, and acoustic. The idea is that students can select their preferred modes that match their learning styles. Hampel (2003) in discussing pros and cons of such audiographic applications notes that their advantages may lead to challenges. While audiographic software has the capacity to develop oral competence in an authentic student-centered environment, and caters for different learning styles, it tends to overload students and provides more technical problems among other things. A number of other studies with different distance courses, but mostly from the Open University in the U.K. yielded similar findings (Hambel, 2006; Hauck, 2007; Lamy, 2004).

Wang (2006) takes the studies on audiographic applications to the next level by discussing videoconferencing in language instruction. The researcher found similar types of interaction modifications that took place in videoconferencing sessions: repetition, expansion, rephrasing, acknowledgment and reduction. He also found that this environment provided some of the supporting elements missing in audiographic applications: facial expression and pictures shown on camera.

There are a few other types of technologies found in this strand of literature. Corda and Jager (2004) discuss the role of content-management systems, such as Blackboard and WebCT in distance language instruction. They are concerned that these applications tend to make instruction more teacher- and less student-centered. Delcloque and Bramoulle (2001) remind us of the importance of authoring systems in distance language education. The authors believe that these applications could be a turning point in the development of

language e-learning in that they empower language educators to develop instructional materials independently of programmers.

Evaluation Studies

Lambert (1991) stresses the importance of more in-depth research on pedagogical aspects of distance language instruction rather than just administering surveys. In this regard, three reports demonstrate different examples of evaluation studies of distance language courses. Cheng (2003) conducted a quasi-experimental study with 30 students in an online and 30 in a conventional writing course. He found that the differences in reading proficiency, attitude, and interest rate were significantly higher for online students than for conventional ones. It is important to note, however, that the online course was built around constructivist principles unlike the conventional course. Felix's (2003) approach was to investigate multiple distance language courses in different countries. She involved four high schools with a total of some 80 students. She then compared these results with her earlier research on college level distance students (Felix, 2001). Her scope of inquiry was broad but mostly included non-parametric data, such as perceptions and attitudes for multivariate analysis. She found that the results of the high school students corroborated those of college students: 1) around 60% of th\e students preferred to use a hybrid approach to instruction; 2) learning styles between working alone, with a partner, and in a group divided equally yielding around 33% for each category; 3) enjoyment increased as the semester progressed. There was also a strong correlation between usefulness and enjoyment of materials, slightly higher for high school students. College students rated general satisfaction slightly higher than high school students. Finally, Madyarov (in press) developed an evaluation framework with a mixed method approach for distance language courses drawing on the literature from both distance education and language instruction.

The framework was then validated in a study of an EFL course in a Middle Eastern university, showing among other things that only lower level students demonstrated significant gains in language skills, specifically, listening and reading.

These three examples illustrate attempts to undertake an in-depth investigation of distance language courses, which often involves a mixed method design. In essence, some of the results corroborate the well-known *No Significant Difference Phenomenon*, according to which conventional courses are in general as good as distance ones (Russell, 1999). There is also a tendency for students to like a combination of face-to-face and online instruction, which corroborates some findings and recommendations in general distance education (Badat, 2006; Strambi & Bouvet, 2003).

One particular study looked at cross-cultural issues in distance language education. Gauriento (2004) discusses how a distance English course from Namibia was adapted for similar schoolchildren in Eritrea. The author brings up concerns pertaining to the epistemological and methodological clashes of interests between the host and receiving schools. This concern is reminiscent of Jegede's (2000) proposition when he earlier talked about crossing borders with distance education and how this affects students in the receiving country.

Quite a few other reports discuss specific examples of courses that are of interest for the proposed study. Ayres (2003) talks about the design process for an in-house course to teach the writing component of the well-known proficiency test IELTS. Besides some technical aspects of course design, the author discusses pedagogical issues, particularly, the inclusion of tutors for individualized guidance on the students' papers. Anglada (1999) continues this theme in her dissertation about tutors in the online writing lab for EFL students. She discovered that much of the feedback as well as revisions were grammatical

rather than global and structural. Overall, the experience turned out to be positive for the students.

Other studies discuss CBLI courses as well as task-based and English for specific purposes (ESP) courses, which are similar to the former in that they tend to concentrate on content more than skill based language courses. In their task based course Trayectorias, built on the principles of constructivist learning, Sole and Mardomingo (2004) discovered that students appreciated the freedom to select different routes and options provided in the course. It allowed the students to set their own learning goals and made the experience more meaningful. In his discussion of a correspondence ESP course for newly enrolled engineering students, Boyle (1994) highlights many pedagogical strengths and mentions a challenge with resources needed for the creation of solid correspondence courses. Vetter and Chanier (2006), besides discussing the use of audiographic software for delivering an online ESP course, state that beginning proficiency students can communicate content-related ideas comfortably enough provided that the content is related to their field of study. One implication of their study is that multimodal environments with the use of text, audio, and graphics provide a solid scaffolding for the discussion of such content via distance. Jones and O'Brien (1997) share their less successful experience with a minutes-writing course for corporate workers. Their challenges included absence of motivation and certain skills needed for this kind of learning (time management, technical skills, etc.) among the learners.

It is interesting to note that these studies on CBLI, task-based, and ESP courses do not discuss content related issues as much as one would expect, which could imply that their courses were either well scoped in terms of complexity of the content and student background, or that the content learning was not as critical in their courses.

I shall conclude this section with a few studies that highlight some challenges in distance language courses. These challenges differ depending on the context and time they were reported. Many studies in developed countries talk about the effectiveness of implementation of recent technologies, whatever they are at the given time: audio and video resources, audiographic applications, course management systems, use of forum discussions, and the like (Corda & Jager, 2004; Delcloque & Bramoull, 2001; Hambel, 2006; Hauck, 2007; Lamy, 2004 Mollerling, 2000; Wang, 2006). Conversely, in developing countries, such as the Philippines and some African countries, predominant issues tend to be less about technologies and more about the lack of public preparedness for distance language courses, funding issues, and poor teacher training (Gauriento, 2004; Mann, 1998).

Summary of Distance Education and Language Instruction

Table 3 summarizes the main challenges in general distance education and in distance language instruction. Most of the issues are distance education specific although there are a few that are pertinent to conventional classes too.

Table 3

Challenges and Recommendations from Literature on Distance Education and Language Learning and Teaching

Challenges	Proposed Recommendations
A missing balance between course structure and learner autonomy	Adjust administration and educational system
Lack of adequate support for distance students before and during course delivery	Provide student orientations and training on how to be effective online learners

Insufficient connection between instruction and application of knowledge and skills in real life	Make meaningful connections between assignments and student workplaces Establish ties with sponsor organizations that would provide internships for students
Lack of motivation among instructors to offer courses via distance	No recommendations discussed
Lack of trained distance instructors	Provide training on distance education for existing instructors Train new instructors to be distance educators
Missing sense of community and belonging	Create centers for distance students to come together from near-by areas
Inadequate technologies and infrastructure for effective development of communicative skills	Create opportunities for language practice in the local environment Develop new technologies
Sense of isolation felt by DE learners	Provide multiple methods of synchronous and asynchronous interactions for learners
Too much emphasis on local problems in writing and insufficient focus on global issues	Provide training for students and tutors on the writing process approach

| Cross-cultural issues: conflicts in teaching and learning styles among students, teachers, and administrators | Consider local culture of students and educational system when delivering courses across differing cultures |

As with the challenges and recommendations summarized in the previous section on content-based language instruction, the contents of Table 3 serve as a foundation for understanding the possible disturbances in the distance environment of the course under investigation. Many of these disturbances proved true in the given context, but their interpretation in terms of contradictions within the students' activity systems sheds a different light on these disturbances, and this is demonstrated in Chapter 4.

Conclusion to Chapter Two

This literature review has touched upon three major areas: 1) the theoretical framework of the study – cultural historical activity theory (CHAT), 2) content-based language instruction (CBLI), and distance education (DE) and language learning and teaching. This concluding section revisits the challenges identified in the literature on CBLI and DE and provides interpretations of a few challenges in terms of contradictions in the activity systems of learners, which is the focus of the proposed study. This will demonstrate how the CHAT framework fits with the purpose of the study, and how this study could be methodologically different from those reported above.

Interpretation of Reported Challenges in Terms of Contradictions

This section attempts to present some of the findings reported in the literature in light of the CHAT constructs. I will consider only a sampling of those challenges at different levels of activity systems.

What becomes immediately apparent in the listing of the challenges in Tables 2 and 3 is the lack of detail. Contradictions are manifested through disturbances and sudden innovations in the actions of participants in the activity systems (Engeström, 1999). From the data presented, it is impossible to identify the actual disturbances or innovations, and accordingly their causes.

For example, I will consider two challenges in CBLI courses from Table 2: 1) lack of coordination between instructors and other important agents, and 2) challenging content; and two challenges in DE from Table 3: 1) lack of adequate support for distance students before and during course delivery, and 2) missing sense of community and belonging.
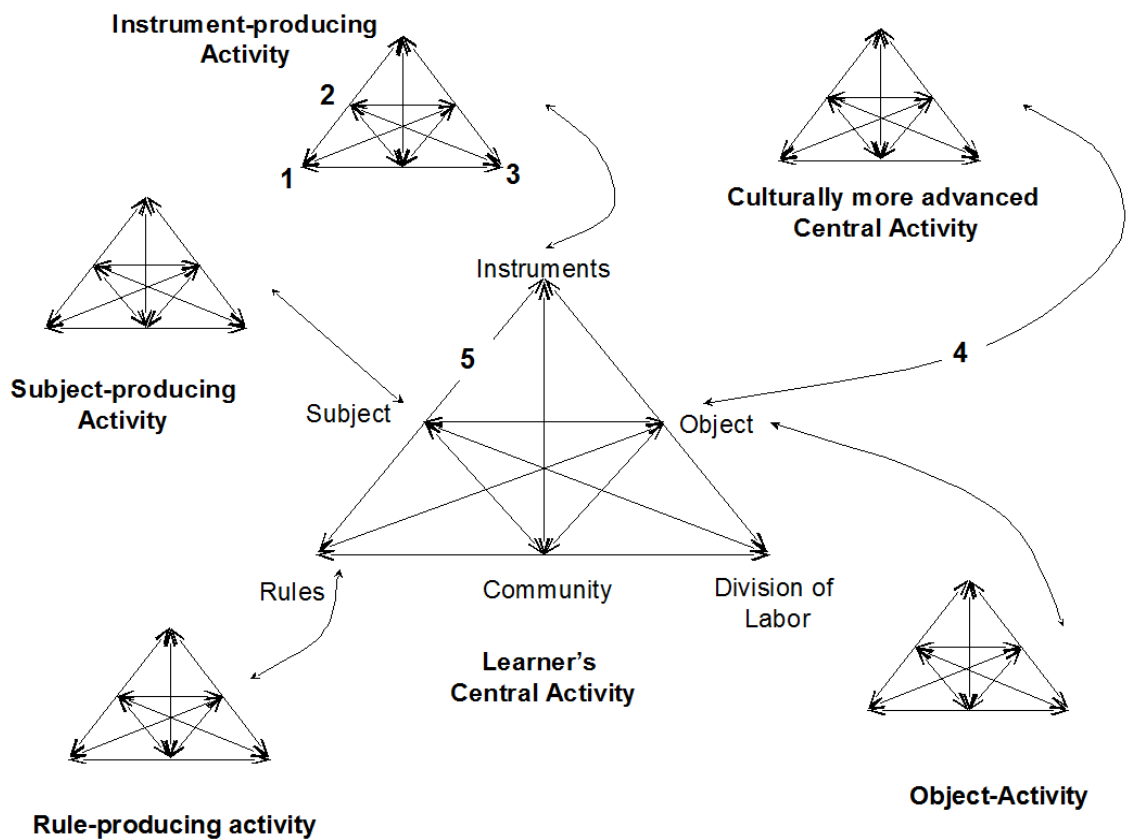
Figure 6. Possible contradictions in a CBLI student's activity system based on literature review.

The challenge with the lack of coordination between instructors and other important agents could be due to a disturbance related to a time-conflict to arrange for joint meetings between a subject-matter professor and a language instructor. Instructors would represent one of the instrument-producing activities because the learner uses them as mediating instruments to transform his/her object. In this example, the disturbance could be attributed to the primary contradiction in the rules corner of the instrument-producing activity (see it marked with Number 1 in Figure 6). It could be due to a personality mismatch, hence lack of coordination (Number 2), or poor agreement on their responsibilities (Number 3).
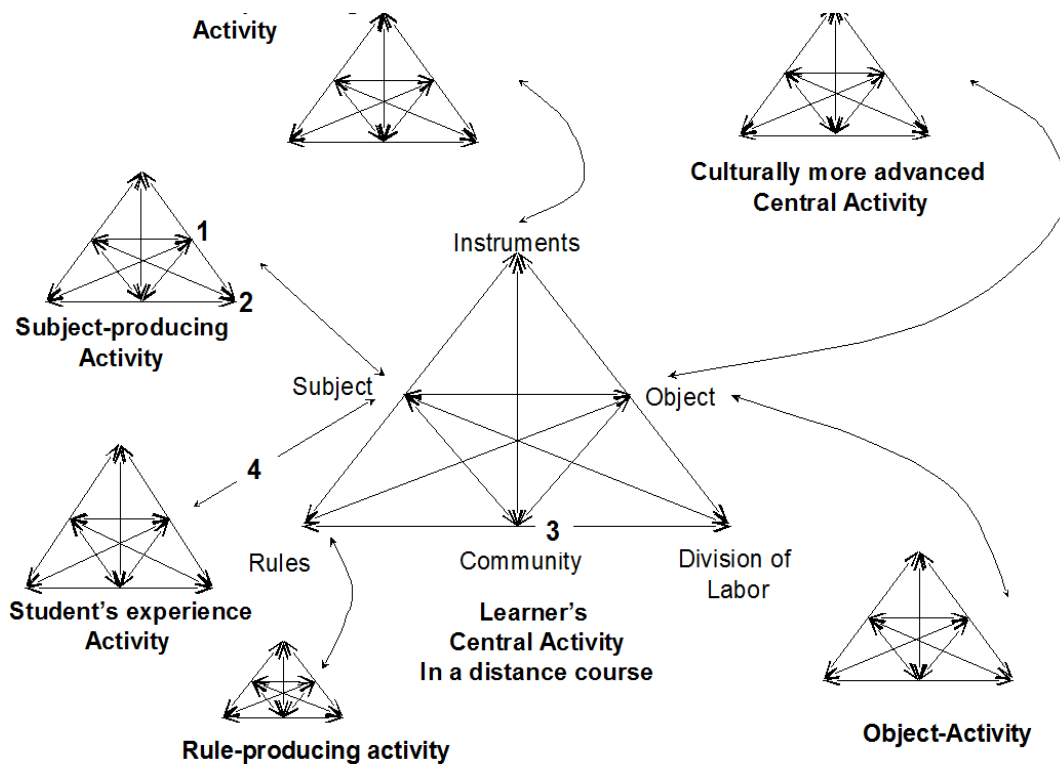
Figure 7. Possible contradictions in a distance student's activity system based on literature review.

The issue with the challenging content again could be attributed to a number of contradictions. It could be a tertiary contradiction between the learner's object and that of the instructors representing a culturally more advanced activity (Number 4), or a secondary

contradiction between the learner and the textbook due to its challenging content or language (Number 5). The range of possibilities is almost limitless.

Let us now consider Figure 7 that shows the learner's central activity system in a distance course. The issue with the lack of adequate support for distance students *before* the course delivery (I deliberately omitted *during* course delivery) could be a primary contradiction in the object of the subject-producing activity (Number 1 in Figure 7), assuming the problem truly comes from administration and not the student. This means that the recruiting department of the school did not do proper work at the marketing stage with preparing students for the demands of the course. Hence, the student population that the department "produced" turned out to be unprepared. It could also be a primary contradiction in the division of labor corner of the same activity (Number 2), meaning that that in the recruiting department, the staff were not clear as to who was to inform the potential students of the demands of the course.

The immediate interpretation of the problem with the missing sense of community and belonging among distance students seems to be a primary contradiction in the community node of the central activity (Number 3). However, it might as well be the student's previous background and expectations of a classroom. In that case, it is a quaternary contradiction between the student's activity system representing his or her past experience and the current student – the subject of the central activity system (Number 4).

The wealth of possibilities that one can see in the interpretation analysis is due to the lack of detail. However, this is not to say that the data in the reported studies are insufficient; they are likely to be more detailed than presented in this literature review. Rather, what this brief analysis implies is that CHAT provides a solid framework for identifying specific underlying roots and consequences because it taps into specific disturbances and innovations at the level of actions. Unless this information is available

through adequate data collection techniques, there will be no way to identify the underlying causes of the contradictions. The next section specifically discusses the methodological aspects of this study in terms of data collection, analysis, and interpretation.

CHAT also provides an advantage in this study due to the content-based nature of the course under investigation. Viewed through this lens, English plays the role of a mediating instrument in the learning of the content. This interplay between English being an instrument versus object of a student's activity system is of particular interest to SLA and foreign language pedagogy. Depending on the position of English in the activity system contradictions and their consequences change their nature as well.

CHAPTER THREE: METHODOLOGY

Introduction to Chapter Three

This chapter discusses methodological issues pertinent to the study. Particular attention will be paid to the setting of the study, research design and method, sampling approach, as well as data collection and analysis techniques.

The study in question is framed within the cultural-historical activity theory (CHAT). It investigates the central activity systems of individual students engaged in an online course on critical thinking. The following questions guide the research:

1. What types of contradictions arise in the activity systems of individual learners of the target course?

   1.1. What primary contradictions arise in the central activity systems of learners in the target course?

   1.2. What secondary contradictions arise in the central activity systems of learners in the target course?

   1.3. What tertiary contradictions arise in the central activity systems of learners in the target course?

   1.4. What quaternary contradictions arise in the central activity systems of learners in the target course?

2. What are the consequences of the identified contradictions?

   2.1. What are the consequences of the identified primary contradictions?

   2.2. What are the consequences of the identified secondary contradictions?

2.3. What are the consequences of the identified tertiary contradictions?

2.4. What are the consequences of the identified quaternary contradictions?

The Setting and Participants of the Study

The Setting

Bahá'í Institute for Higher Education (BIHE) is situated in a unique cultural-historical environment. Located in Iran, this Institute, until recently, used Farsi exclusively as the medium of instruction, except for the English linguistics major students whose courses have been delivered primarily in English. BIHE originated in 1987 in an effort to meet the needs of a large population of the followers of the Bahá'í religion who were denied access to higher education as a minority group (U.S. Department of State, 2007). Since its inception, the Institute has grown to offer 14 undergraduate and 3 graduate degrees totaling over 700 courses (Bahá'í Institute for Higher Education, 2006b).

Since the very beginning of its history, BIHE has used a hybrid correspondence system of education where students would come to a central location in Tehran, the capital city of Iran, to meet with their professors, receive guidance, and sit for exams. Such visits would take place every month or so and last for about a week. This practice, however, is becoming less possible due to recent persecutions, as a result of which traveling to the physical facilities has become less feasible. The semester during which the study was conducted did not have a traditional face-to-face orientation precisely for this reason. Instead, the online classes, such as the critical thinking course, had their orientations online at the course website.

The current BIHE semester lasts 20 weeks, of which four weeks are reserved for the preparation and administration of the proctored midterm and final examinations. An academic year at the Institute includes two semesters, with the fall semester starting

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approximately September 20 and ending mid-February. The spring semester runs from April 5 until the beginning of September. These dates are not stable because the university often encounters challenges from the government leading to delays and disruptions.

Until recently, students would meet at the Institute facilities. However, as the discrimination increased and the facilities were appropriated, meeting on a regular basis at a physical location became a challenge. The Institute decided to start moving towards a distance model of instruction. This new model of delivery is opening doors for international collaboration. Some distance courses are now offered in English by English-speaking adjunct professors from abroad. Those include courses in the MBA program, and a few courses in other departments. Most of the adjunct professors work for BIHE on a voluntary basis. With the introduction of the distance learning environment and increased opportunities for more quality education, students now have to adapt to an additional medium of instruction – English.

The critical thinking course, which is the focus of this study, is an important component of the distance curriculum at BIHE. It is a bridge course in that it helps students transition from purely English courses to subject-matter courses that students take as part of their major programs. As such, it is a content-based course that focuses on the subject matter of critical thinking. The course is part of the core curriculum of BIHE, meaning that students of all majors are required to take this course as part of their program of study.

The Bridge Course

Traditionally, BIHE has provided English instruction through individual departments. Each department would develop and offer English courses at different levels of proficiency with more focus on English for specific purposes at more advanced levels. In 2006, the amount of exposure to English throughout the students' academic careers varied from 40 to

420 contact hours within the period of 2 to 6 semesters, depending on the department and major (Bahá'í Institute for Higher Education, 2006a).

In 2005, BIHE formed a group of volunteers to help develop EFL curriculum that would apply across different departments. This group included EFL teachers and a few instructional technology experts who were located in different parts of the world. A Bahá'í owned multimedia company in the Philippines offered to design the courses in the Flash program that would include some interactivity with animations and controllable contextualized audio input. In the fall of 2005, BIHE launched a pilot EFL 101 course (a lower intermediate course). Now there are four EFL online courses: EFL 100, 101, 102, and 103 with a total enrollment of about 1,000 students per semester. These are theme-based content courses in that they all focus on English instruction with a non-language content that ties the language instruction together, such as Academic Success, Human Progress, and the like.

The bridge course under investigation is the next natural step from EFL 103. While it focuses on a non-language subject matter (critical thinking), it also integrates linguistic support, which is supposed to further help develop students' academic English proficiency (Brinton, Snow, Wesche, 2003). The decision to use this content in the bridge course was arrived at in collaboration with an outside BIHE faculty member who is in charge of the BIHE curriculum development, in particular, the core curriculum of the Institute. As an initiator of this project, I described the nature and purpose of the bridge course to the collaborating faculty member, and we concluded that critical thinking has to be the subject-matter course of the BIHE core curriculum.

The objectives of the critical thinking course are the following:

- At the end of this course students will be able to:

- Analyze academic text using most of the main components of critical thinking: purpose, questions, concepts, information, assumptions, perspectives, and implications.

- Solve academic and non-academic real-life problems using the following elements of critical thinking: purpose, questions, concepts, information, assumptions, perspectives, implications, ethics, evaluation of evidence, fallacy detection, unity building.

- Use critical thinking concepts and principles in writing and optionally in speaking through conference calls with clarity, accuracy, and fluency expected of advanced English as a foreign language users.

The course was offered for the first time from April 21, 2008 through August 8. 2008. Of these 15 weeks, the first week was an online orientation to the course and introductions among the group participants. According to the BIHE academic schedule, the period between June 17 and 30 was reserved for the mid-term exams, and as such no teaching activities took place. Because the bridge course did not have a midterm exam, the students used this opportunity to catch up with late assignments.

The courses consisted of eight modules lasting from one week to ten days with additional overlaps between the modules. Each module included an article that discussed an aspect of critical thinking:

1. History of Critical Thinking
2. Intellectual Attributes of Critical Thinking
3. Ethical Components of Critical Thinking
4. Faith and Critical Thinking
5. Asking Questions
6. Evaluating Evidence

7. Detecting Fallacies

8. Consensus Building and Critical Thinking

The articles were written by invited contributors from U.S. and Canadian universities (see **Error! Reference source not found.** for a sample reading). The contributing authors are professors or experts in critical thinking, who share the same religious background with the students. Thus, the content of the course is aligned to consider the students' cultural and religious background. Some effort was made to adapt the level of readings to the higher-intermediate and advanced level of English proficiency. However, due to personal preferences and styles, some contributors chose to use complex language to accurately convey the depth of their content.

There were four assignments in the course: two required and two optional. The major required assignment was 250-350-word long analysis papers for each module (see Appendix B for the Guide for Analysis Papers). In these papers, the students analyzed each reading using three elements of critical thinking: 1) the purpose of the text and the questions it addresses, 2) conclusions or implications it makes, and 3) one more element of student's choosing: a) the information and facts the author uses, b) the concepts and terms he/she discusses, c) the assumptions the author makes, and d) the perspectives he/she presents. In addition to these three elements, the students were required to include reflections on the content of the article. Students wrote each paper by first submitting a draft and then a final revision based on the instructor's content- and language-related feedback. The instructor graded the final paper focusing only on the quality of the content, the amount of revision implemented based on the instructor feedback, the overall quality of the language (see Appendix C for the grading rubric). The students had on average of 13 days to write each paper including the time for the instructor feedback and follow-up revisions. According to the grading policy, the students could submit their papers up to tend days after

the due date, but with a penalty of 10% of the grade per every day late. There was one 10-day grace period per one paper assignment. The students could apply the grace period to any paper at any time during the semester, but only once.

The second required assignment was the problem solution forum discussions. Originally, the plan was to keep each forum open for one month. However, due to low participation, the forums were left open throughout the whole course. In these forum discussions, students discussed scenarios and collaborated with their classmates to find solutions using critical thinking principles. The forums were graded based on the level of participation and the degree of reference to the course readings (see Appendix DAppendix DAppendix D for the grading rubric). The first problem solution forum posed a scenario with a family conflict, in which a mother of a seven-year-old boy is concerned about her son's excessive involvement in computer games (see Appendix E). The second forum discussion asked the students to create their own real-life problem based on the example of the first one and then discuss each other's problems applying critical thinking principles (see Appendix F). The last forum discussion had different prompts depending on the instructors' preferences. Two instructors asked students to debate about the evidence and fallacies found in the chapter about the Bahá'í Faith written by Martin (1965) in his book *The Kingdom of the Cults*. The students were divided into groups: one opposing and the other supporting the author (see Appendix G). Two other instructors, whose students participated in the study, followed the same debate format but presented two articles about upbringing of children (see Appendix H).

The course also included two other optional assignments, for which the students could earn bonus points. One of them was a pre-writing activity, where students had an option of sharing and outlining their ideas about the course readings before starting to write their papers on an individual basis. The pre-writing activity was also in the forum format. An

attempt was made to introduce this activity in the Wiki format, but it failed due to technical challenges of the course management system. The instructors graded pre-writing activities twice during the semester: 1) at the mid-term covering Modules 1-4, and 2) at the end of the semester covering the remaining Modules 5-8. The grading rubric accounted for the consistency and quality of student participation (see Appendix I).

Another opportunity to earn bonus points was conference calls with the instructors held on Skype or Yahoo! Messenger. Due to the fact that most instructors taught the course on a voluntary basis, they were not required to hold conference calls. Conference calls took place in some groups depending on the students' interests and instructors' availability. Some students joined the sessions individually or in groups depending on the time selection. The main purpose of these conference calls was to provide students with an opportunity to clarify the subject matter of the course and develop English-speaking skills. The instructors graded all the conference calls once at the end of the semester. The grading rubric accounted for the consistency and quality of student participation (see Appendix J).

The grade book consisted of two categories of assignments: 1) analysis papers that constituted 64% of the course grade, and 2) problem-solution forum discussions that constituted 36% of the course grade. The two optional assignments: pre-writing activities and conference calls, each added extra 8% to the course grade, thus providing extra means for the students to make up for low grades on the required assignments. Appendix K shows a copy of the description of the course assignments with the due dates and weights.

In addition to the graded assignments, the course had three other forum discussions: Questions and Answers, Course News and Announcements, and Announcements and Discussions for each module. The interaction in the first two forums took place at the course level. Any student could post their problem or concern in the Question and Answer

forum and expect to receive an answer within 48 hours. The Course News and Announcements forum was a place for general course level announcements and if necessary any follow-up discussion. Unlike the first two forums, the Announcements and Discussion forums belonged to each individual module and each individual group of students. Each instructor was responsible for making posts in these forums by sending reminders of module-specific due dates and sometimes by posting extra study materials.
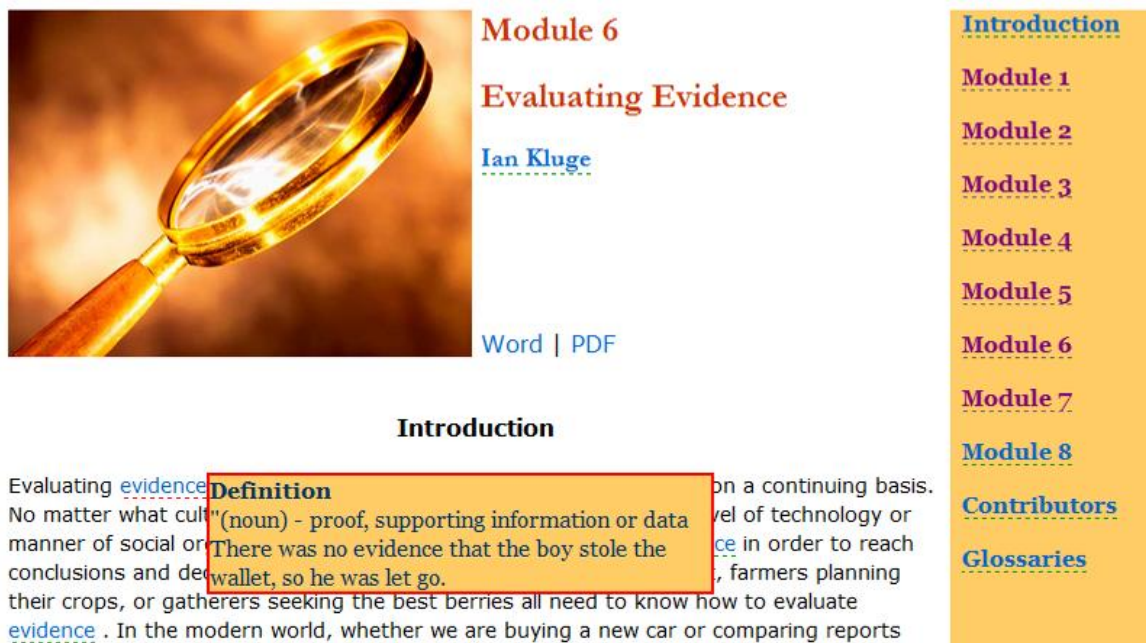
Figure 8. A print screen of the web browser version of an article that shows a roll-over box for a glossed word.

The online component of the course was delivered through Moodle, a content-management system (CMS), which provided students with access to course materials, grades, electronic drop-boxes and other instruments typical of most CMSs. Due to poor Internet connection and sometimes absence thereof, the reading materials were also available on CDs. Besides the printout versions of the eight articles with enclosed glossaries, the CD included a web version of the readings. This way, students could enjoy the interactivity of Internet pages without having to go online. The glossaries in this format

were embedded as roll-over boxes that appeared when a student rolled over hyperlinked words (see Figure 8).

The Instructors and Teaching Assistant

Because the theoretical framework of this study implies a close attention to the surrounding activity systems, the discussion of the course instructors will be revisited along with the discussion of the findings in the following chapter. This section provides a brief overview of the faculty and staff in order to minimally contextualize the study.

Of the five course instructors, four participated in this study. They all resided outside of Iran. One of them had a Ph.D. degree in Intercultural Communication, and had taught courses in critical thinking as part of her teaching career. She was also the Chair of the Communication Department of a U.S. college. Another instructor was an ESL and EFL teacher with more than two years of experience in the development of the BIHE EFL curriculum. She also had strong personal interest in content-based language instruction, which was the reason she wanted to participate in the project. The third instructor was myself. Besides being the researcher, I also co-developed the critical thinking course and assumed the role of the course facilitator during the course delivery. Finally, the fourth instructor was a graduate of the doctoral program in Second Language Acquisition and Instructional Technology at the University of South Florida. She had extensive experience teaching ESL/EFL and distance ESOL courses to undergraduate and graduate students from the College of Education. Of the four instructors, only the first one identified herself as an expert in critical thinking and critical theory. Two instructors had Ph.D. degrees. One is a Ph.D. candidate, and one held an M.A. degree in teaching English to speakers of other languages.

Most instructors volunteered to teach this course. Their workload varied from 10 to 25 students. One of the instructors was hired, and she had 25 students.

Prior to the beginning of the course, the instructors took a one-week teacher training session at the Moodle course site. The training focused on the: 1) design and structure of the course, 2) technical aspects of the course site, 3) nature of written feedback, 4) inter-cultural aspects of the course, 5) discussion of course assignments, and 6) subject matter of critical thinking. There was one conference call with all course instructors and the subject-matter expert co-author of the course (see the welcome message to the instructors during the training session in Appendix L).

In addition to the instructors, there was one teaching assistant (TA) for all 70 students. The TA was a BIHE student from an undergraduate program in English linguistics. Her English was advanced. She resided in Iran, and her function was to act as a liaison between the students and instructors. The EFL coordinator, who also resided in Iran, and who was also my research assistant, oversaw the logistics of the bridge course as well as the work of the TA. The EFL coordinator routinely participated in bi-weekly conference meetings with other administrators of the EFL operations team including the lead tutors for EFL 101-103 courses.

The Students

There were 68 enrolled students in the course. Most students in the critical thinking course had high-intermediate to advanced levels of proficiency in English. The majority of the students reached this level by taking distance courses at BIHE: EFL 100 through 103. Their gender was a good mix of males and females, mostly in their late teens or twenties. There were, however, some students who were older adults with families and other commitments. This population of BIHE returns to school in order to receive the higher

education they could not receive in the past. Because EFL courses, including the bridge course, are part of the BIHE core curriculum, all students are required to take them. Most if not all of the students are Bahá'ís who have been denied access to higher education in official universities in Iran.

The target students had limited or no prior experience in taking courses similar in content to that of the bridge course under investigation. In fact, the decision to create the course on critical thinking was derived from the need to develop such competency in BIHE students.

Originally, the students were put into groups of 5-6. However, to address the problem of low interaction among the students, those groups were collapsed into larger ones with 10-12 students in each at the midterm exam recession. These groups worked together on problem-solution forum discussions and pre-writing activities. They could also see forum posts in other groups but could not respond to them. Conference calls were open to all students under the assigned instructor. For example, the two teachers who taught 25 students had two separate groups, and the students from these groups sometimes interacted with each other in conference calls. The Course News and Announcements and the Questions and Answers forums were available to all students at the same time.

Figure 9 summarizes some of the aspects of the setting in the form of a generic course taking activity system, which in a later discussion I will refer to as a course shell. Many features of this course shell are the same in the actual activity systems of the student participants (e.g., certain rules: due dates, plagiarism policy; division of labor, or technological instruments: Moodle, telephone, CDs, etc.). However, some others differ from one participant to another. Among those unstable features is the student's object. As was extensively discussed earlier, object is shaped by a motive that forces the subject to be engaged in this activity. In this sense, motive and object are considered equivalent to the purposes of this study. Participant-specific activity systems are discussed in detail in the following chapter.

Instruments
- DE technologies: Moodle, forums, wikis, telephone, CDs
- Glossaries
- Reading articles
- English as a foreign language
- Course instructors

Subject
Individual student

Object
Effectively use critical thinking skills in school, work, and personal life

Rules
- Due dates
- plagiarism policy
- Late assignment policy
- Grading rubrics

Community
- Classmate
- Instructor

Division of Labor
- students complete assignments
- instructor provides feedback
- TA voices students' concerns
- IT staff provide help with technology

Figure 9. An activity theoretical shell of the critical thinking course.

Research Design

Research conducted within the CHAT framework calls for a specific research design that would afford an in-depth study of an activity system or a constellation of interacting activity systems. A single activity system can belong to an individual subject, such as a person, or a collective subject, such as a school class or a society. Movement from the unit of analysis of actions to that of activity is also a critical aspect of CHAT-specific methodology (Barab et al., 2002; Engeström, 2001). Given that the main unit of analysis in this study is an activity system with an individual student as a subject, a viable research design would be a case study. A single case in this design represents a central activity system of one student taking the critical thinking bridge course (see Figure 9). Thus, the primary focus of the study was to investigate individual cases of such central activities equal to the number of students selected for the study.

According to Stake (1995), "a case study is expected to catch the complexity of a single case" (p. xi), which in the proposed study is a central activity system of an individual student in the bridge course. Stake defines two types of case studies: an intrinsic case study and an instrumental case study. The former inquires about a particular case, which is the sole object of the study. The latter investigates a case in order to understand a general problem. That is, the instrumental case study seeks to apply the knowledge acquired from one case to other similar cases.

By Stake's definition, this proposed study is an instrumental case study in that it seeks to understand the nature of contradictions in distance CBLI courses, not necessarily limited to the individual student cases at hand. The fact that the study attempts to contribute to the theoretical understanding of CHAT in SLA also puts it in the category of instrumental case studies.

Yin (2003) talks about different types and functions of case studies. He makes a case that case studies can be used to create generalizations, but those are generalizations to the theory, rather than statistical generalizations. When generalizing to the theory, a researcher is relying on a very finely developed theory, which he or she is testing using different cases. The more the theory stands the test of different cases, the stronger it becomes. This is in line with Engeström (1999a) when he is says that CHAT research is both practical in that it helps improve is the practice and theoretical in that it adds knowledge to the construction of CHAT as a theoretical framework. Thus, case study is a design that is consistent with the theoretical framework of this study and with the general principles of qualitative research.

Research Method

In their explication of Vygotsky's genetic method, Lantolf and Thorne (2006) state that "the only appropriate way of understanding and explaining higher, culturally organized, forms of human mental functioning" is to study "the process and not the outcome of development" (p. 28). The point the authors are trying to make is that research grounded in sociocultural theory of Vygotsky primarily studies cultural and historical changes of human cognition. This endeavor is predominantly achieved through qualitative methods of inquiry although there are studies that do involve experimental methods, which were also implicated by Vygotsky himself (Scribner, 1985).

However, it is not only this similarity between sociocultural theory and CHAT that calls for a qualitative design. There is a difference that further justifies this methodological decision. Sociocultural theory researchers primarily work with the unit of analysis of actions. CHAT contextualizes the subject's actions in the light of his or her motive at the level of activity. This principle was first introduced by Leont'ev (1975) and further supported and developed by many other activity theorists (Engeström, 1987). Thus, unlike most research in sociocultural theory, CHAT extends its inquiry to the unit of analysis of activity, meaning

that the collective is present at least in the community element and may even extend to the

subject element, when it consists of more than one person (Davydov, 1999). This

significantly impacts the complexity of the method. The researcher now investigates the

historical development not only of an individual subject engaged in action through

mediating instruments, but the historical development of all the elements as part of the

activity system: communities, rules, and division of labor, and even goes beyond to include

the neighboring activity systems.

The purpose of this study and its guiding questions call for an in-depth investigation of

phenomena. Particularly, this endeavor involves a constant movement from the unit of

analysis of action to activity, as well as the tracing of contradictions and the complex

interactions within central activity systems and their many elements: subjects, objects,

instruments, communities, rules, and divisions of labor. It is important to note that while this

methodology adheres to Engeström's third generation of CHAT that accounts for the

influences of neighboring activity systems (see Figure 6), the immediate attention still

remains on the central activity systems with individual students acting as subjects. The

neighboring activity systems are considered when circumstances point in their direction. For

example, when investigating a student participant's orientation towards his or her object, I

had to direct my attention to the learner's past experiences, which belong to a subject-

producing activity system. This approach is congruent with CHAT research, where attention

to actions and their contextualization in the light of the activity system is key (Barab et al.,

2002; Engeström, 1999a; 1999b). It is also congruent with CHAT in that the neighboring

activity systems are not initially the primary units of analysis, but rather are complimentary

sources of information that shed light on the actions taking place in the central activity

system. We find support for this approach in Engeström's (1987; 1999a; 1999b) discussion

of contradictions in activity systems and his emphasis on inner contradictions that take

place within or between the elements of the central activity system (i.e. primary and secondary contradictions).

In view of the above, the study aims to deal with the complexity inherent in the multiple realities constructed in the central activity systems of learners in their natural settings. Lincoln and Guba (1985) characterize this kind of research as a naturalistic inquiry that typically employs qualitative methods of investigation.

Within CHAT literature, we find some discussion on the methodology of investigation too. Many of the principles in this discussion are in line with the assumptions of naturalistic studies. For instance, Nardi (1996b) summarizes the methodology of research on human computer interaction (which has much in common with any other CHAT research) by identifying four guidelines:

- There should be a long enough time provided to accurately identify the subjects' objects and trace any changes over time;

- Researchers need to be pay "attention to broad patterns of activity" that would show a general movement of an activity (p. 95);

- One should employ diverse sets of data collection techniques, and

- It is important to consider the subjects' perspectives on their activity.

Mwanza (2002) takes these and other guidelines for CHAT research and sets out to empirically operationalize and validate a methodology for CHAT research. She proposes the following four instruments: 1) the eight-step model, 2) activity notation with three operational guidelines, 3) technique of generating research questions, and 4) technique of mapping operational processes. While most of these instruments are not directly applicable to the current research due to a differing focus of the study, the eight-step model appears helpful.

The eight-step model is not a chronological but rather a cyclical technique that poses specific questions to learn about the activity of interest (see Table 4). In the current study, I traced the student participants' central activity systems to identify possible changes in the object and other elements of the activity. A modified version of this eight-step model was a helpful operationalizing instrument for the students' activity systems. As such, it is reflected in the data collection and analysis procedures to be discussed below.

Table 4

The Eight-step Model adapted from Mwanza (2002, p. 128).

Step	Identify the:	Questions
Step 1	Activity of interest	What sort of activity am I interested in?
Step 2	Object	Why is the activity taking place?
Step 3	Subjects	Who is involved in carrying out this activity?
Step 4	Instruments	By what means are the subjects performing this activity?
Step 5	Rules	Are there any cultural norms, rules or regulations governing the performance of this activity?
Step 6	Division of labor	Who is responsible for what, when carrying out this activity and how are the roles organized?
Step 7	Community	What is the environment in which this activity is carried out?
Step 8	Outcome	What is the desired outcome from carrying out this activity?

Recruitment and Sampling of Participants

The major unit of analysis in this study was a central learning activity of an individual learner as the subject of this activity system. Thus, each individual learner methodologically represented one case. Selection of cases was based on purposeful sampling strategies.

Patton (1990) discusses 16 purposeful sampling strategies used in naturalistic studies. Of those, the maximum variation sampling suits best the purpose and the setting of the proposed study. As the term implies, this sampling strategy aims at identifying a variety of cases to depict as complete a picture of the issue as possible.

Table 5 shows the chronological steps of the selection, recruitment and other data collection procedures. In terms of selection and recruitment of six participants, the first stage was making an announcement about the upcoming research study to the whole class. Because the orientation took place this time in the online Moodle environment, the announcement from the EFL coordinator in Iran was posted to the Moodle course site. The reason for asking the EFL coordinator to make the announcement was to instill a sense of safety in the students. The EFL coordinator was the main point of contact for all BIHE students taking online EFL courses. They know her and identify her with the BIHE institution, which is not the case with me – an outside researcher from the University of South Florida, at best an affiliated adjunct faculty member.

Shortly after the announcement, all students received individual emails from me with the invitation to participate in the study (see Appendix M). The informed consent was attached to the email (see Appendix N). Given the time constraints, students had five days to respond to the email instead of the originally planned one week. Eight students responded to the invitation expressing their interest to participate in the study. Three other students responded apologizing for not being able to join the study.

At the next stage, these eight students were screened based on the information from the background survey (administered as part of the course activities during the online orientation week) and the students' grades from the EFL 103 course that they took in the previous semester. From these sources, the most critical factors for the selection of the participants using the maximum variation sampling strategy included the students':

- English level proficiency: high versus low

- interest in philosophy and/or critical thinking: high versus low

- gender: female versus male

- age: young adult versus mature adult

- groupings: different groups and instructor or the same

- motivation to learn English: high versus low

- experience with the computer technologies: extensive versus limited

- experience with previous distance courses: positive versus negative

The other two students were not selected for the study because their characteristics did not add to the maximum variation sampling. One of these volunteers was a female student who matched the characteristics of another male student in terms of English proficiency, age, grouping, and perceived motivation to learn English. However, because there were more females than males among my selected participants, I opted for another male participant. The same rationale was used to make a choice among the last two potential participants. They were both males, computer science majors, and belonged to the same instructor. However, one of them had a clearly lower proficiency in English, a characteristic that was a rare find among the eight volunteers, and this determined my final decision.

Having selected the six student participants, I sent out email invitations to their instructors (see

Appendix O) and the teaching assistant (see Appendix P). They had five days to respond to the invitation email. Of these six students, five officially remained enrolled in the course until the end of the semester. About a month into the semester, one of them chose to withdraw from the course and another one stopped participating due to the many other duties he had.

At the same time an email invitation was sent out to the teaching assistant. The course instructor responded immediately agreeing to participate in the study. The teaching assistant, however, never responded even after two follow-up emails.

As the semester progressed and data collection and analysis began, it transpired that the study was missing an added more in-depth perspective from the BIHE administration. After consulting with the co-major professors and obtaining approval for the study modification from IRB, I contacted one of the BIHE coordinators who had been closely involved in administering and teaching courses at BIHE (see Appendix Q for the informed consent letter). This coordinator participant lives in Iran and graduated from the BIHE linguistics department. During the study, she was finishing her online MBA degree at BIHE. She had been intimately related to BIHE since her father joined a team of volunteers who laid the foundation to this university some 20 years ago.

<center>Data Collection</center>

Before the actual data collection period, some data collection techniques were piloted on three students who successfully completed the EFL 103 course. While EFL 103 is not a bridge course by our definition, it still stands close to the bridge course in terms of language demands made on students and in terms of the technologies students use, such as Moodle, Skype, and Yahoo Messenger. In other words, the informants represented the target student participants in terms of their English proficiency and experience in taking BIHE distance courses.

The purpose of the pilot interviews was two-fold: 1) to test whether the probing interview questions elicited the kind of data required for the study, and 2) to test the technical capacities of the computer mediated communication and recording applications. The interviews took place via Skype and Yahoo Messenger to test the quality of the connection on the two most popular applications among BIHE students. The interviews lasted approximately 20-30 minutes and were recorded using Audacity, an open source recording application.

The pilot interviews revealed a few insights that affected the data collection procedures. First, it transpired that students could not remember specific challenges they experienced in the EFL 103 course that had finished a month prior to the interview. This indicates that certain disturbances and innovations may lose significance for the students after a lapse of time. Hence, to ensure minimal loss of these data, extra effort was made to schedule the interviews with the students to take place shortly after they completed some of the major assignments in the course. Second, some adjustments were made to the wording of the interview questions so they could elicit the type of data the study sought to collect. Third, all three students could follow my questions very easily and express themselves articulately in English. The three students, however, did not represent a wide range of proficiencies typical of EFL 103 graduates, but according to the quality of their papers and final course grades, they covered most of the typical target students. Lastly, the interviews went well from the technical standpoint. The quality of the voice recording was clear, and the participants did not experience any significant delays. There were some challenges with the initial Internet connection on the students' end as well as the microphone connection on one occasion, but those obstacles were overcome easily through a few email exchanges.

Thus, the set of interview questions (see p. 111) reflected all the required changes made as a result of the piloting and the final consultation with the chair members of the dissertation committee.

What follows next is the discussion of data collection procedures. The course officially started on April 21, 2008 with an online orientation at the Moodle course website. During the orientation, the students introduced themselves, familiarized themselves with the course site and course requirements. The students also took the Background Survey as part of the course activities. Table 5 provides an outline of data collection procedures along with major events in the course delivery.

Table 5

Procedures, Data Collected, and Corresponding Dates

When	Study procedure or course Event	Where and/or How
April 21-28	Students introduced themselves	At the Moodle course website
April 21 – May 16	Students took background survey	At the Moodle course website
April 29	Course started	At the Moodle course website
May 8	Proposal defended	At USF
May 12	IRB approval received	At USF
May 12 – 18	Research announced to prepare for recruitment	Research assistant/ forum post at the course website
May 16	All students invited to participate in the study	By email

By May 20	Student participants selected	On the basis of: 1) students' response to my invitation email 2) background survey, and 3) English achievement results from the previous semester.
May 20	Course instructors and teaching assistant invited	By email
May 24	Student participants finalized and informed	By email
May 24 – August 27	Student participants' data collected: paper assignments, pre-writing activities, forum participation, Moodle logs, conference calls, student-instructor interactions via email, in Moodle, or conference calls	From Moodle course website Via phone or Skype/Yahoo Messenger
May 24 – August 24	Student participants interviewed (3-5 times per semester)	Skype/Yahoo Messenger Recorded with Audacity
August 10 - 30	Instructors and coordinator participants interviewed	Via Skype Recorded with Audacity
May 24 – end of data analysis	Record researchers' field notes	Atlas.ti memos

As the actual data collection and analysis started, I had to find a way to organize the growing pool of qualitative data in a more efficient way than in multiple folders on the computer. This problem was solved by ATLAS.ti, a computer application for qualitative data analysis. For ease of analysis, every document was saved in a .txt or .rtf format before uploading it to the software. It allowed for efficient coding and linking of multiple sets of data that could be printed out in a number of different ways depending on the purpose of the analysis. Due to the efficiency of the software to organize all the data, most of the instruments for data collection and analysis devised for the proposal of this study proved unnecessary at this stage of the research. They did, however, play a critical role in conceptualizing the design of the study and the many steps of data collection and analysis. In this sense, these instruments served as a conceptual stepping stone in the methodology of this study. The section of Data Analysis that follows discusses in more detail how ATLAS.ti was utilized during the analysis stage.

The following sections are going to address all the data sources and data collection procedures outlined in Table 5 above.

Background Survey

All the students in the bridge course took the Background Survey as part of the course. As such, no informed consents were required. The survey was placed in the Moodle course site and had a due date ending on May 2, 2008. The survey elicited information regarding students' goals, interest in English and critical thinking, age, self-reports of their ability to use Internet and other technologies, and accessibility to communication tools.

Because the survey was in English, special care was taken to ensure proper readability level for the intermediate to advanced EFL learners, such as use of simple vocabulary and grammar, short sentences, and familiar topics. Further, the original survey questions were

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piloted on two BIHE students who also participated in the piloting of the interview questions. These students were about to take the critical thinking course, and as such matched the target student population in terms of the level of proficiency and experience with online BIHE courses. The following set of questions is the result of this piloting with all identified ambiguities or additions taken care of:

- Why did you decide to receive higher education?

- Why did you decide to study for your degree?

- Why is knowing English important or not important for you?

- What is your age?

- Have you taken any online distance courses at BIHE or any other school? If so, please share your experience: was it positive or negative, and why.

- What are your personal goals for this critical thinking course?

- What do you think of the subject of philosophy?

- Please describe how experienced you are with computer technologies: Skype, Yahoo messenger, forum discussions, email, and the like.

- Please describe your experience with conversation assignments via phone, Skype, or Yahoo messenger, or other voice applications.

- What kind of access to the computer and Internet do you have?

Analysis Papers

Students wrote eight papers to demonstrate their engagement in the readings. As was described earlier, students first had a chance to brainstorm and outline ideas in the optional pre-writing activities, and after having produced a draft, they received feedback from the instructor, and prepared their final paper. These sets of data - pre-writing activities, drafts, and final papers with instructor feedback – were used to identify possible disturbances and

innovations in the student participants' actions, primarily through content, grammar, vocabulary, organization, and other kinds of inconsistencies. Due to the fact that the participants produced many projects with such inconsistencies, it became impossible to follow up on every instance of disturbance or innovation in the interviews. Thus, focusing on instructors' comments as sources of disturbances in students' actions appeared to be the most efficient and theoretically justified approach. Whatever was not matching the descriptors in the grading rubric (see Appendix C) and was commented on by the instructor was considered a disturbance. Among those, an effort was made to strike a balance between discussing different kinds of comments from the instructor: content-, language-, organization-, or mechanics-related. Examples of questions asked about disturbances in instructor comments included:

- When you were writing the draft, did you suspect this error commented on by your instructor?

- Did you understand the instructor's comment?

- How did you go about fixing it?

Other questions inquired about the students' satisfaction with the grade, reasons for late paper submissions, and a number of regulative behaviors during the drafting and revision process, such as use of dictionaries or grammar references, re-reading the source article, going back to the assignment description, and seeking help from classmates or other people, among other things.

For ease of analysis, the draft and the final papers with the instructor feedback were put together in one .rtf file and uploaded to ATLAS.ti. The questions for the subsequent interviews with the student, instructor and coordinator participants were generated during the preliminary analysis and coding of disturbances and innovations. This approach

replaced the original form for identifying possible disturbances and innovations created for the proposal of this study.

Problem Solution Forums

Forum discussions have been notoriously inactive in online EFL courses. This tradition continued in the critical thinking bridge course. As such, problem solution forums were a rich source of data about disturbances in student participants' actions. The participants' posts were easily accessible in the Moodle environment. They were copied and pasted into a text-editor and then saved for a systematic analysis in the ATLAS.ti software. Important indicators of possible disturbances were frequency of posts, dates of posts relative to the due dates, and the amount and content of the posts. As with the analysis papers above, these indicators are primarily based on the grading rubrics for forum discussions (Appendices …). Such signs of disturbances or innovations were followed up in the interviews with questions such as the following:

- How are the forum discussions going for you?

- Did you struggle with this assignment? Why or why not?

- Was it interesting to do it? Why or why not?

- Do you know how much these problem solution forums contribute to your final course grade?

- If the weight for this assignment was lower, for example, 5% instead of 36%, would you spend more time doing it?

- Did you have to use a dictionary or grammar book to help you with this assignment?

- Did you read the grading rubric and the description of the assignment before making your post?

Like with the analysis papers, all forum discussions were uploaded to ATLAS.ti, where preliminary analysis of disturbances and innovations took place, and questions for the subsequent interviews were noted.

Questions and Answers Forum

The course had a forum discussion where any student could post questions or concerns related to the course. Unlike the Problem-Solution forum, this asynchronous discussion was an optional way of communication between the students and the course instructors and administrators. This forum was open to all students, meaning that a post from any of the 70 students was visible to all other course participants.

Unfortunately, this forum that promised rich data on student disturbances turned out inactive. Unaware of the purpose of the forum, the technical assistant for the course deleted a number of first interactions in this forum in his attempt to organize the posts in a more efficient way without letting the instructors know. He then sent an announcement to all students that contradicted the original idea of the forum. This put an end to the student participation in this forum despite the follow-up remedial announcement. Overall, there were only 15 posts from the students throughout the whole semester, with two problems raised by different students: missing course CDs at the beginning of the semester, which were soon deleted by the teaching assistant, and three questions about new groups at the midterm.

Moodle-Tracked Logs

Moodle allows for the tracking of students' online presence and provides information about the type of event (viewing, uploading, or posting) and the time and date of the event. These logs gave an overall picture of the student participants' online presence and engagement in the course over time.

These logs were a convenient way to observe the student participants' engagement with the online tools that did not elicit student responses. Among such were the above mentioned Course News and Announcements open to all 70 students and News and Discussions for each module and group. The six student participants never posted anything to these forums, but they did visit them, and these behaviors became transparent through the Moodle-tracked logs.

These logs were downloaded in the Excel spreadsheet file and then copied and pasted into a text editor for further analysis in the ATLAS.ti software. Some logs had indications of possible disturbances when, for example, a student would repeatedly check the messages from the instructor about conference calls, otherwise invisible from the actual course site. I would follow up instances like these in the interviews:

- Has anything prevented you from doing assignments this past week/two weeks?

- Any issues with the computer or Internet?

- Have you been able to solve the issue?

- I noticed you kept checking your instructor's posts about conference calls. Why did you do that?

Conference Calls between Instructors and Students

Conference calls were optional assignments that students could participate in to earn extra bonus points towards the course grade. Of the six student participants, only three chose to join conference calls with their instructors. One of them had a call at the beginning of the course before the approval of the IRB, and that conversation could not be recorded. The other two participants belonged to the same instructor. They were able to talk once during semester. These conversations were recorded by the instructor and emailed to me for subsequent transcription and analysis.

Message and Email Interactions

Besides the data that were directly accessible to me in the Moodle environment, such as those discussed above, there were two other sources that could only be requested from the participants: messages sent through the internal Message tool in Moodle and email messages outside of Moodle. These interactions between the instructors and students often signaled disturbances in the student participants' actions. The instructors provided copies of these exchanges once or twice during the semester when I requested them.

Interviews

In the absence of face-to-face contact, conducting interviews with English learners presented serious challenges. For this reason, the interviews were conducted through Yahoo messenger and Skype which provided instant messaging capacity for extra linguistic support. The interviews were semi-structured to tap into specific areas of interest and took place three or four times during the semester depending on the availability of the students. Repeated interviews allowed for capturing a historical change of students' activity systems.

Overall, the student participants' level of proficiency was enough to collect relevant information. In one case, one of the participants used Farsi to express a culturally complex idea, which was further translated by another Farsi-speaking person. To accommodate the student participants' English proficiency, I emailed them a list of questions generated from the online observation data (such as analysis papers, forum posts, and Moodle logs) and stored in the ATLAS.ti software. The most serious challenge during the interviews was the technical connection. Because most of the student participants had a dial-up connection, this caused inhibiting delays and poor sound quality. To overcome this obstacle with one participant, I instant messaged my questions in the text box, while the participant

responded orally. With another participant, I called her on her home phone from my Skype out account.

Being semi-structured, the interviews relied on probing questions and then expanded further to tap into more details of interest. Below is a sampling of probing questions from one of the interviews:

- How many times do you read the articles for this course?

- What do you know about the Universal Course Structure? Do you read it sometimes? Do you usually try to find out about the structure of the course and its requirements or not? Do you think this style is common among most BIHE students, or is it your personal approach?

- Have you tried to contact your instructor because you had a question, request, or you wanted to clarify something?

- How do you revise your papers when you receive feedback from your instructor? Do you have to go back to the article or the Guide for Analysis Papers? Do you have to ask someone for help?

- Share some strategies that you use in this course, such as using a dictionary to help you with the articles. Tell me as many of your strategies as you can remember.

- Which of these strategies did you use in other EFL courses (EFL 102 or 103)? Which ones are different?

- Compare these strategies to your Statistics in Business course? Are any of these strategies different or the same?

The interviews with the instructors and the coordinator participants took place once when the semester was over. Frequent email exchanges, however, took place throughout the semester. Below is a sampling of probing questions from the interviews with the instructors:

- How was your distance teaching experience in this course? Have you taught online before? What kinds of courses have you taught that are similar to this critical thinking course?

- I noticed that you posted announcements in Announcements and Discussion for Modules 1 and 2, but not in Modules 3, 4, 5, 6, and 7. Why did you decide to stop making those posts?

- How do you decide what needs to be commented on: misunderstanding due to issues with ideas, language, ..., or for the sake of drawing a student's attention to the mistake even though it doesn't cause any misunderstanding?

- Azad has requested conference calls several times? Was it mostly the time issue that prevented you from offering conference calls to the students?

- In paper 1, you left a comment on Azad's sentence: [What do you mean when you say that historic information "adds up to the knowledge of the reader"? Do you mean that you accept everything Michael Penn writes, and it adds to your knowledge? Or are you saying you are already familiar with the information he presents?]" Was this question a form of recommendation or a genuine question caused by misunderstanding?

- There were quite a few points of disagreement between you and Azad in his papers. I noticed that these points of disagreement often resulted in a lower grade. Is that an accurate observation?

The interview with the coordinator participant had a different purpose and focused on issues pertaining to the cultural-historical context of BIHE in general. The following are some questions from this interview:

- Do students realize that BIHE is moving towards a bilingual model of education?

- I hear students are saying that regular universities in Iran don't ask much from their students, and BIHE students have to work harder to get better grades. What do you think of this?

- Do you think because BIHE struggles with organization aspects, the students tend to slack too with their assignments and due dates?

- Why is it difficult to make trips to Tehran more organized? Students complain a lot about poor scheduling of exams, trips, etc.

- Many students are grade driven. Could this be influenced by the Bahá'í ordinances to excel in everything? Or it is more of the Iranian culture?

- All interviews were audio-recorded with Audacity and transcribed for further analysis.

Field Notes

Lincoln and Guba (1985) recommend three types of journals: a) daily schedule/calendar that identifies logistics and events pertinent to the study, b) personal reflection diary where researchers note their thoughts, interests, values relative to the study, and c) methodological log with major related decisions and rationales. As thoughts and issues emerged during data collection and analysis, I recorded them in the ATLAS.ti software in a section called Memos. Originally, I created a Word document form to enter my reflections. However, because ATLAS.ti offered a convenient and efficient way to organize a large pool of data in one place, the original Word document was never used.

Over time, these notes developed into six categories: 1) coding notes, 2) notes on participant recruitment, 3) data collection reflections, 4) data analysis reflections, 5) ethical issues, 6) notes on the course delivery, and 7) ethical issues. Every note had a date. The most frequently updated logs were for data collection and analysis. They served as a

conceptual device to make a better sense of the data during collection and analysis. These logs are the repository of the most insightful thoughts of me as a researcher.

Ethical Aspects of Data Collection Procedures

This study inevitably involved intrusion in the instructor-student dynamics of the course. As a researcher, I took a special care to prevent any unintentional changes in these dynamics or the participants' feeling of insecurity. In the informed consent document, the participants were clearly informed of the strictly confidential nature of the data collection and dissemination procedures (Appendices ....). In my emails and interviews, I took a position of a respectful observer by means of appropriate use of language and behavior. When I observed seemingly inadequate practices in any of the participants, such as lack of revisions in the students' papers, lack of their participation, or insufficient feedback and overtly strict grading of the instructor, no direct references to those instances were made to the participants or the administration of the course. In other words, in cases like these, I assumed my researcher's position. On one occasion, however, a student participant obviously misunderstood the role of the problem-solution forums and completely ignored them as optional assignments. During the interview, I indicated to her that while this behavior presented much interest to me as a researcher, she still had to revisit the course requirements and clarify the grading policy for the problem-solution forums to avoid a significant drop in her final course grade. Thus, when the conduct of the participants jeopardized their outcome in the course, I assumed the role of the lead instructor and took measures to address the problem. Fortunately, no instances of intended ethical violations occurred during the course of the study.

Data Analysis

Following the recommendation for naturalistic studies, the data analysis started as soon as the first set of data arrived (Gall, Gall & Borg, 2007; Lincoln & Guba, 1985). There were three stages of data collection and analysis: 1) recruitment and selection of participants, 2) data analysis during collection, and 3) finalizing results. The bulk of the analysis took place in the ATLAS.ti software which allowed for easy linking and coding of the data. Thus, as a new data set arrived, it was turned into a .txt or .rtf file and uploaded to this application. Due to the introduction of this software, much of the originally planned instruments and techniques for analyzing data changed. The following discussion will highlight these changes and provide a detailed description of the analysis techniques applied to every data source during three stages of analysis. Table 6 introduces the updated methods of analysis applied to each type of data discussed in the Data Collection section above.

Table 6

Three Stages of Data Analysis with Corresponding Dates

Time/Frequency	Data Source	Analysis Method or Instrument
Stage 1: Recruitment and selection of participants		
April 21 – May 16	Background survey	Elimination approach (Appendix S)
Once at the beginning of the semester	Students' English achievement results from the previous semester	Elimination approach (Appendix S)
Stage 2: Data analysis during collection		

May 17 – August 8 Before every interview	Student participants' paper-related assignments: pre-writing activities, draft papers, and finalized papers	ATLAS.ti coding and memos
May 24 – August 8 Before every interview	Student participants' Problem-solution forum posts	ATLAS.ti coding and memos
May 24 – August 8 Before every interview	Moodle-tracked logs	ATLAS.ti coding and memos
May 24 – August 8 Twice per semester	Interactions between instructor and student participants via Moodle message tool or by email	ATLAS.ti coding and memos
May 24 – August 8 Once per semester	Conference calls between instructor and student participants	ATLAS.ti coding and memos
May 24 – August 8 Before every interview	Students' posts to the Questions and Answers forum	ATLAS.ti coding and memos
May 24 – August 27 3-5 times per semester	Interviews with the student participants	ATLAS.ti coding and memos
May 24 – August 27 Once at the end of semester	Interviews with the instructor and BIHE administrator participants	ATLAS.ti coding and memos

May 24 – end of analysis	Researcher's log	ATLAS.ti memos
After every data collection or analysis		

<div align="center">Stage 3: Finalizing results</div>

Mid-august – Mid-October Once at the end of semester	- Documents related to the analysis papers (students' optional posts to the pre-writing activities, students' first draft with the instructor's comments, students' final paper with the instructor's comments and grade) - Moodle-tracked logs - students' posts in the Problem-Solution forums - students' posts in the Questions and Answers forum - conference calls between instructor and student participants - interactions between student and instructor participants via Moodle Message tool and by email - interviews with student, instructor, and BIHE administrator participants	- ATLAS.ti coding and memos - Technique for operationalizing disturbances and innovations

Stage1: Recruitment and Selection of Participants

At this stage, the data were analyzed using the elimination approach. This method applies to the sampling procedure rather than the analysis of data that address the research question. The elimination approach (see Appendix S) considered the data from the background survey and the students' English achievement results from the previous EFL 103 course in order to identify the best cases for the research. The chart includes the following critical criteria that reflect the maximum variation sampling strategy discussed above: English level proficiency, interest in philosophy and/or critical thinking, gender, age, groupings, motivation to learn English, experience with computer technologies, and prior experience with distance courses.

When entered in the form, the data became more visually organized and conducive to the elimination approach. This technique was applied only to the eight students who expressed their willingness to participate in my study by replying to my recruitment email. A more detailed discussion of the recruitment and selection of the eight participants was provided in the section Recruitment and Sampling of the Participants above.

Stage 2: Data Analysis during Collection

The purpose of this stage was to confirm the preliminary findings obtained through student-produced data by conducting interviews with the students and other participants. At this stage, the data were analyzed as they were collected in line with the recommended methodology for naturalistic studies (Lincoln & Guba, 1985). As was discussed in the Data Collection section above, these assignments and indicators of online presence included:

- documents related to the analysis papers:
- students' optional posts to the pre-writing activities

- students' first drafts with the instructor's comments, and

- students' final papers with the instructor's comments and grade

- Moodle-tracked logs

- students' posts in the Problem-Solution forums

- students' posts in the Questions and Answers forum

- conference calls between instructor and student participants

- interactions between student and instructor participants via Moodle Message tool
  and by email

Two changes were made to the originally proposed design of the study. First, the forms that were designed to organize the collected information were replaced by the ATLAS.ti application. Among such forms were Possible Disturbances and Innovations for tracking possible indicators of disturbances and innovations in the participants' data. Another such document was the Activity History Log based on Mwanza's (2002) proposed methodology that was meant to capture the changes in the elements of the activity systems during the semester: instruments, object, division of labor, community, and rules. ATLAS.ti provided a facility for selecting relevant segments of evidence within the application and coding them accordingly. The selected and coded segments could then be printed out for further use, for example, during the interviews.

The second change concerns the Activity History Log that was supposed to be updated four times according to the four cycles in order to capture changes in the participants' activity systems. The data collection and analysis did proceed in four identical cycles as was outlined in the proposal. In each cycle, I 1) collected the participant produced data and identified possible disturbances and contradictions, 2) interviewed the student participants to confirm the disturbances and innovations, 3) constructed preliminary contradictions and consequences, and 4) prepared the preliminary results for member checking, and this

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repeated a total of four times. These four cycles were methodologically necessary to pay closer attention to the students' actions and elicit accurate information from the participants while it was still in their memory. However, this approach was not effective for constructing the four historical cycles specific to the participants' activity systems because the participants' activity systems had their own dynamics and they did not coincide with my data collection schedule. Thus, half-way through the data collection and re-construction of the same six elements of the activity systems (subject, instruments, object, division of labor, community, and rules), I chose to leave the task of constructing the dynamics of the participants activity systems until after all the data were collected. With this approach, the changes in the activity systems were still identifiable because I asked the same kinds of questions in the interviews, but these changes matched the real participants' historical cycles and not the research cycles. In the discussion of the results, this dynamics was represented in three stages: beginning of the semester, mid-term, and end of the semester.

The process of analyzing and collecting the data using ATLAS.ti proceeded in the following way:

- All data sources were saved in the .txt or rtf format and uploaded to ATLAS.ti
- Each data source was read and preliminarily coded as possible evidence for:
  - disturbances or innovations
  - elements of activity system (instruments, object, division of labor, community, and rules)
- Questions for the follow-up interview were generated based on the identified possible evidence and noted down in the Memo window of the ATLAS.ti application.

Figure 10 provides an example of the coding process. The left pane shows the data source – in this case a student participant's analysis paper. The right pane shows codes linked to corresponding segments of the data source. The Memo window shows interview

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questions which were generated based on observed disturbances and innovations or elements of activity system.
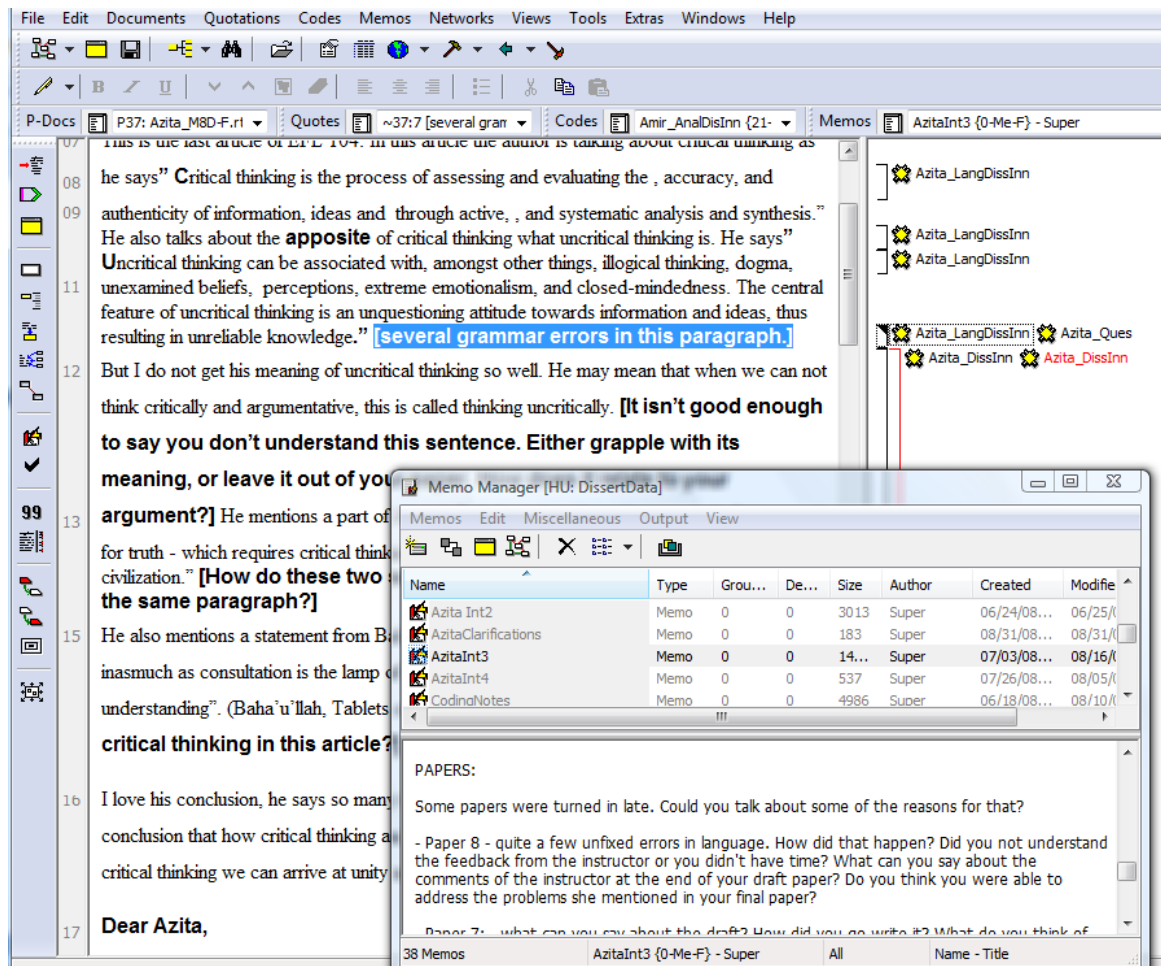
Figure 10. ATLAS.ti screenshot with codes and a memo window.

While the elements of the activity system were theoretically predetermined, the disturbances and innovations had to be coded anew. When the analysis and coding started, five types of disturbances emerged: 1) language-related disturbances, 2) analysis-related disturbances, 3) genuine instructor disturbances, 4) content-related disturbances, and 5) all others. Language-related disturbances included mechanical, grammatical, lexical,

and organization-related feedback on the papers from the instructor. In addition, late submissions of papers, clarifying questions sent to forums and instructors also served as possible evidence of language-related disturbances. Analysis-related disturbances were based on the students' misunderstanding of the expectations of the Guide for Analysis Papers reflected either through the missed discussion points in the papers, instructors' feedback, or the students' questions sent to the forum or instructors. Genuine instructor disturbances were manifested through questions that the instructors asked because they were confused over the students' ideas mostly because of the grammatical or lexical inaccuracies. Content disturbances were the instructors' recommendations to the students to improve on their ideas in the analysis papers. These recommendations did not concern the ideas related to the requirements of the Guide for Analysis Papers. Finally, all other indicators of possible evidence that did not belong to the four categories above were coded as others. During the analysis of other student participants' data, many of these categories of disturbances emerged again. Others, however, had to be created a new. Thus, as more data arrived from each student participant, the coding developed too. Appendix R includes a list of definitions for these and other codes that became developed during the actual coding and analysis process.

The interview questions about the elements of the participants' activity systems were generated based on Mwanza's (2002) eight-step model in Table 4 At this stage, the emerging evidence was coded as 1) subject, 2) instruments, 3) object, 4) division of labor, 5) community, and 6) rules. The definition for each construct is provided in Appendix R. A particular attention was paid to the identification and dynamics of the objects throughout the semester. Because at this point of the study, it was impossible to make conclusions about the participants' interests as objects of their activities, I coded them in more generic terms

as objects. At Stage 3, these preliminary coding objects were refined (to be discussed further).

As the interviews were conducted and transcribed, a follow-up analysis of the data would take place. At this point, any emerging findings about patterns of the participants' activity elements and disturbances or innovations indicating contradictions and their consequences were noted down in the researcher's data analysis log under the Memo section of ATLAS.ti. During this analysis and reflection phase, certain questions would emerge, and I noted them down in the Memo section for a follow-up in the next interview. This procedure was repeated three to four times during the semester. Some student participants were not able to participate in all four interviews, while others agreed to a final fifth interview. At the end of the semester, the instructor and BIHE administrator participants were interviewed. The interview questions were compiled in the process of the four cycles of data collection and analysis. Every time a piece of evidence needed a confirmation, a question was added for a specific instructor or for the BIHE administrator in the ATLAS.ti section.

Stage 3: Finalizing Results

At this stage, the data preliminarily analyzed in ATLAS.ti were revised and finalized. There were two methods or techniques that facilitated this analysis: 1) ATLAS.ti coding and memos and 2) technique for systematizing disturbances and innovations

ATLAS.ti Coding and Memos

As was described above, during Stage 2, the student-produced data were analyzed and coded preliminary in order to generate follow-up interview questions. The codes for the disturbances and innovations became refined as more data were collected. However, the

participants' objects had to be refined at this stage. The literature does not provide detailed discussion of how to identify methodologically an object of an activity system, except that it is a long-term motive that underlies the actions performed by the subject, and that it is not always clearly recognized by the subject (Engeström, 1987; Engeström, 1999a; Leont'ev, 1975). Given this definition and the missing opportunity to observe the participants in real life, I relied primarily on the interviews, where I asked the participants about their goals in the critical thinking course. To confirm whether these goals were indeed objects in the theoretical sense, I inquired about actions that the participants performed in or outside of the course that would confirm their commitment to their objects. Next, I would analyze the data collected from the course to confirm the existence of a given object. This methodology required a cyclical analysis of the data for every potential object a participant had.

The following is an example of this methodology. During the first interview, Azad, one of the participants, mentioned that his goal in the course was to pass it and get a grade. He also reinforced this idea in the background survey. This turned out to be one of the objects in the critical thinking course. In fact, it was an exchange value orientation of an academic object, such as improving EFL or learning critical thinking, which will be discussed in much detail in the following chapter. This orientation was present in some of his course-related actions, such as requesting his instructor for optional conference calls or participating in optional pre-writing activities that earned him extra bonus points. When asked about his motive to complete these optional assignments, he readily admitted that he wanted to increase his grade. However, in addition to this grade-orientation, the data also indicated Azad's tendency to criticize people. He found faults with the authors of the articles despite the fact that analysis papers did not emphasize criticizing people. His instructor also clearly saw this tendency. In the interviews, Azad confirmed that he tended to criticize people, and that in fact he enjoyed doing it. Thus, while patterns of objects emerged already during the

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data collection and preliminary analysis, at this stage of finalizing the results, it required revisiting the data and preliminarily defined objects to confirm their existence. Critical to this analysis were the memos, the reflection logs in ATLAS.ti, where I entered and refined my interpretations. It should be noted, however, that the findings about the participants' objects remain tentative because of the limited methodology due to the online environment and because objects in and of themselves are a theoretical construct that are hard to identify through observable data.

Technique for Operationalizing Contradictions and Consequences

At the end of the semester, all disturbances and innovations were identified, confirmed, and stored in ATLAS.ti. The technique for operationalizing contradictions and consequences was instrumental in putting all disturbances and innovations together in one document in order to identify their patterns and construct contradictions and consequences. This instrument is a combination of the original technique for operationalizing disturbances and innovations and the analytical techniques for interpreting contradictions and consequences. It includes the following original formula for phrasing disturbances and innovations:

- [Subject] had difficulty/was dissatisfied with [goal of action] because [disturbance]
- In order to [goal of action], [subject] came up with the idea of [innovation] to compensate for the [optional - disturbance]

In addition, this modified instrument includes cells for contradictions and consequences. The methodology for linking disturbances and innovations to the underlying contradictions and their consequences is partly based on previous research. In one of his articles, Engeström (1999b) provides examples of how their research team identified inner contradictions in a children hospital in Helsinki that had just undergone some major

changes in its infrastructure. The purpose of the article is to explain how contradictions in the activity system can be made visible. In their approach, they video-taped multiple interactions with different participants in the hospital and then called the executives for a joint session where the videos were shown and discussed. To give one example, they identified a series of disturbances: 1) multiple recordings of the same information about the patient by different hospital workers (nurses and doctors), 2) multiple undressing of the child patient for examination, and 3) loss of information about the patient. These and other disturbances lead to two underlying contradictions in the activity system of the hospital: 1) between division of labor (rigid compartmentalization of duties) and the object (continued care for the patent) and 2) the instruments (missing adequate documenting tools) and the object (patient's need for adequate guidance for treatment).

This methodology for identifying contradictions in activity systems is present in many other works by Engeström (1987; 1999a, 2001). There are several implications in examples such as above. First, all the disturbances and innovations need to be first identified and laid bare in front of the participants. Second, participants representing multiple perspectives of the same activity system should come together to offer their explanation of the identified disturbances and innovations. Third, the interpretations of contradictions take place in the light of the activity system of interest with all its elements in place: subject, instruments, object, division of labor, community, and rules. As a result of this effort, certain disturbances and innovations may start pointing at one underlying cause of the problem – a contradiction.

In this present study, the bulk of the data comes from the interviews and "observation" sources. The multiplicity of perspectives is ensured through the involvement of the subject of the activity and the community (instructor). Finally, the activity system with its elements is available to contextualize the disturbances and innovations at hand. One drawback of this

methodology, however, is the missing meeting where all the participants with multiple perspectives come together for a joint consultation. This is partly compensated by follow-up interviews with the instructors. In addition, newly interpreted contradictions and their consequences were member-checked as much as possible in the subsequent interviews with the student participants.

Finally, the researcher's log compiled in ATLAS.ti memos was instrumental in theoretical construction of contradictions and their consequences. During the data collection and preliminary analysis, I noted down my preliminary interpretations of contradictions and their consequences, which were then revisited during the final stage of my analysis.

Table 7 provides a few examples of disturbances and innovations identified in Azad's data that are operationalized in terms of contradictions and consequences. For example, through the interviews with Azad, it transpired that he wanted to have a conference call, but because his instructor did not feel confident using Skype and because she missed his last request, Azad was never able to have a conference call. This disturbance was consistent throughout the semester; hence it is a contradiction. In order to identify what kind of contradiction it is, the involved subject, object, or mediators (Skype and instructor) need to be placed in the activity triangle: instructor (community) – Skype (instrument). The consequence of this contradiction also comes from the data. According to both Azad and his instructor, they were never able to hold a conference call due to these disturbances, and Azad expressed a concern about the lost opportunity to earn extra bonus points and to communicate with his instructor. In other words, no *solutions* for these *disturbances* have emerged, and the *contradiction* remained *unresolved*.

When it comes to "unremarkable innovations" by Engeström's (1999b, p. 68) definition (see the last two rows in Table 7), it is important to keep in mind that theoretically they are the same as solutions of disturbances. In other words, they occur at the action level in that

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they are single events. When a disturbance occurs on a regular basis, it becomes evident that there is an underlying contradiction that is causing it. When an innovation, i.e. solution becomes implemented on a regular basis to address the same disturbance, it acquires a theoretical status of a *resolution* of that contradiction.

For example, the data show that Azad was able to submit his final paper on time, but his draft was a few days late. When inquired about his rationale, Azad explained that this was his strategy that he had to develop in order to cope with time constraints. As such, it is a resolution of a contradiction between tight due dates (time constraints) and the need to turn in his assignments on time (grade-oriented object). The following chapter will provide a detailed discussion of the objects that the participants had in the course environment, as well as the connection between secondary contradictions, such as between due dates and objects and quaternary ones, such as between course and work activities.

This instrument establishes a connection between single occurrences of disturbances and solutions (i.e. unremarkable innovations) on the one hand, and contradictions and their consequences (resolutions or absence thereof) on the other. This technique employs the data coded and stored in ALTAS.ti and theoretical analysis of the involved constructs.

Table 7

Sample of Operationalized Contradictions and Consequences

Azad's Disturbances			Solutions/possible consequences	Possible contradiction	Data source
had difficulty	Having conference calls with instructor	because his instructor didn't feel confident using it & she missed one of his requests	No solution – lost opportunity to earn extra points & communicate with instructor	Community – instrument	Forum, interview
had difficulty	Interacting with his classmates in forums	because his classmates did not participate actively	No visible solution	Community – object	Instructor interview, Interview 3
had difficulty	Having smooth relationship with instructor	because she misunderstood him for a schmoozer	No evidence	Community – subject	Instructor interview, Interview 3
had difficulty	Taking classes from Iranian professors	because they don't know how to teach; don't know how to work online; their materials	No evidence	BIHE - Azad's activity	Interview 3

		are outdated			
		Azad's innovations			
In order to	Write his Paper 2 on time	Azad came up with the idea of	Running late with the draft but turning in his final on time	Rule – object	Paper 4
In order to	Write his paper 3 on time	Azad came up with the idea of	Running late with the draft but submitting the final on time	Rule – object	Paper 2

Trustworthiness

Following the recommendations for naturalistic inquiry, I ensured rigor of this study by establishing trustworthiness. Lincoln and Guba (1985) provide four conditions for trustworthiness: credibility, transferability, dependability, and confirmability, which correspond to the post-positivistic internal validity, generalizability, reliability, and objectivity.

Among the means for ensuring trustworthiness, Lincoln and Guba (1985) recommend: a) prolonged engagement, b) persistent observation, c) triangulation of sources, methods, and investigators, d) peer debriefing, e) checking findings and interpretations, and f) thick description.

One semester provided sufficient exposure to the activity systems of interest. My previous three-year experience with BIHE, as was discussed above, provided extra supporting information to contextualize and interpret the findings.

Triangulation of sources and methods was achieved through the different methods, types and sources of data described above. There were three types of informants: students, instructors, and a BIHE administrator. The types of data included the background survey, interviews, observations of the students' online participation, students' products, such as papers and postings to forum discussions, as well as the researcher's log.

To ensure that the information I collected during the interviews with the students was accurate, I used clarifications and confirmation checks, such as "What I'm hearing is that .... Is that correct?" or "Did I understand you correctly?" This technique was also helpful with the instructors and BIHE administrator when the sound quality was not adequate enough.

After each cycle of data collection, analysis, and interpretation, I identified questionable interpretations of data and prepared them for member checking. Thus, the preliminary findings from each cycle were followed up with the student participants in the subsequent interviews.

Two colleagues were requested to cross check the coding of the data. Each of them received approximately 30% of the data set collected from one student participant and was asked to code the evidence for identified disturbances, innovations, and activity elements: subjects, instruments, objects, division of labor, communities, and rules, according to provided operational definitions (see Appendix R). The agreement as a result of independent coding was 87% with one co-rater and 72% with the other one. After I discussed the differences with the co-raters, the agreement reached 100%.

The interpreted findings were also discussed with the major professors of the committee. These meetings helped arrive at a consensus on debatable interpretations when they seemed ambiguous.

Finally, transferability is key in qualitative research. Lincoln and Guba (1985) recommend a thick description of the setting and participants that would allow the reader to make a judgment as to how close the setting and participants come to his or her own target population. This concept of transferability is present in the works of other qualitative scholars. Eisner (1998) and Bruner (1986) talk about verisimilitude or lifelikeness as a feature of qualitative research that allows the reader to see the reality depicted by the researcher in as realistic a way as possible. The size of this manuscript testifies to the role of transferability in this study. Each participant received ample attention. The setting, likewise, was discussed in much detail to achieve verisimilitude.

Summary of Data Collection and Analysis

This concluding section discusses how each of the two overarching questions were addressed methodologically in terms of 1) the data collected, 2) analyses completed, and 3) the timeframes for these procedures. All the procedures of the study can be presented in terms of three phases (Table 8).

At the first stage, I selected the participants. At the second stage, went through three to four cycles of 1) observing the students' online participation, 2) confirming the emerging evidence through interviews with the students, 3) interpreting preliminary contradictions and their consequences, and 4) preparing data for member checking in the subsequent interview. During the last cycle, I also interviewed the instructors and a BIHE administrator whose input triangulated the findings. At the last stage, I reviewed all the data and preliminary findings and finalized them in light of the research questions. Table 8 summarized these stages by highlighting research procedures and corresponding data sources and instruments.

Table 8

Summary of the Research Stages

	Procedures	Data sources and instruments
Stage 1: Recruitment	Selection of participants: - Students - Instructors	- Background survey - Students' English achievement results from the previous semester - Elimination approach (Appendix S)

1) Find possible disturbances and innovations in students' assignments and other sources 2) conduct interviews to confirm disturbances and innovations and identify activity systems and their changes 3) Interpret preliminary underlying contradictions and consequences manifested in the identified disturbances and innovations 4) Prepare interpretations for member checking at the subsequent interviews	- Student-produced data: papers, forum entries, student-instructor interactions, and Moodle-tracked data - Interviews with student participants - Interviews with instructor participants - Interview with BIHE administrator - Researcher's log - Students' identified activity systems - ATLAS.ti coding and memos
- Finalizing the interpretations of contradictions and consequences and students' activity systems - Cross-checking of findings and interpretations with two colleagues	- Student-produced data: papers, forum entries, student-instructor interactions, and Moodle-tracked data - Interviews with student participants - Interviews with instructor participants - Interview with BIHE administrator - Researcher's log - Students' identified activity systems - ATLAS.ti coding and memos - Technique for operationalizing disturbances and innovations

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There are two overarching questions in this study: 1) What types of contradictions arise in the activity systems of individual learners of the target course? and 2) What are the consequences of the identified contradictions? These sets of questions were addressed using almost the same sources of data. Figure 11 roughly shows this relationship. It is rough in the sense that in reality all the data sources were used for both questions, but there was emphasis on certain types of sources to answer one or the other research question. For example, we see that there are no data sources that would exclusively address only the second research question about consequences of contradictions. The bulk of the findings about consequences came from the interviews with the participants because consequences are primarily identified or rather confirmed through interviews and only secondarily through observed data, such as pre-writing activities, paper assignments, forums, and Moodle-tracked logs. The question about contradictions, on the other hand, depends on the data about disturbances and innovations, which were primarily identified through the observed data. Secondly, they were also confirmed through interviews with all the participants.

Research question 1:
What types of contradictions
arise in the activity systems of
individual learners of the target course?

Research question 2:
What are the consequences of
the identified contradictions?

- Background survey
  Observation Data
- Pre-writing activities
- Analysis papers: drafts and finals
- Conference calls
- Problem-solution forums
- Questions and answers forum
- Moodle-tracked logs

Interview Data
- 3-4 interviews with students
- 1 interview with instructors
- 1 interview with a BIHE administrator
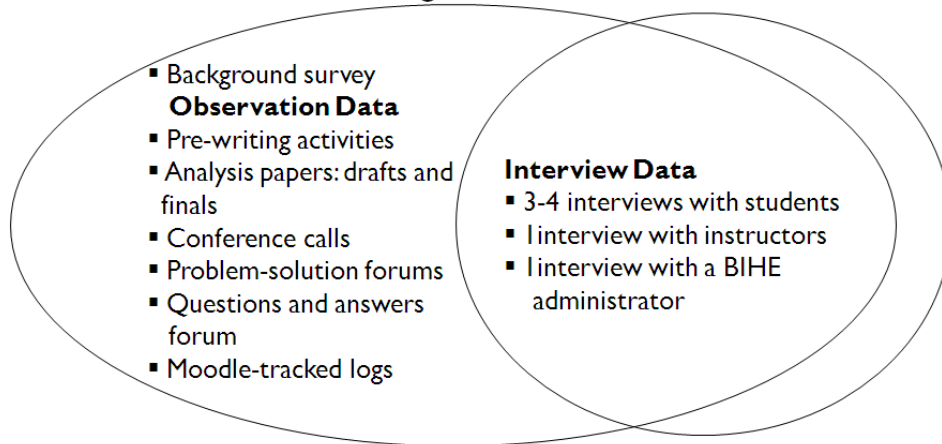
Figure 11. Distribution of data sources among research questions.

Finally, Figure 12 represents the information in Table 8 and highlights the cyclical nature of the procedures. This visual representation provides some additional insights in terms of the sequences of procedures. One can see that Cycles 1 through 4 proceed in an iterative manner. The study is finalized in Stage 3, which took place after the bridge course was over and all the data were collected.

Stage 1: Recruitment and selection of participants

- Recruitment of participants
- Selection of participants

Stage 2: Four cycles of data analysis during data collection

Interview to identify AS elements, disturbances & innovations

Interpret preliminary findings

Cycle 4
Cycle 3
Cycle 2
Cycle 1

Find possible disturbances & innovations

Prepare interpretations for member checking

Stage 3: Finalizing results

- Finalizing activity systems, contradictions and their consequences
- Cross-checking of interpretations with colleagues

Figure 12. The three stages of the study.

My Role as Researcher

This section belongs to the end of the methodology chapter for a purpose. It brings the discussion of methodological issues to a logical conclusion by implying that many of the procedures above are inevitably influenced by my personal biases and limitations, and rather than concealing them as non-existing, I would like to bring them to the forefront in order to raise my own awareness of their influences as well as the reader's. This following discussion highlights my researcher's role in designing this study as well as its influence on the interpretations of the results.

Proponents of naturalist inquiry maintain that a naturalistic researcher, representing a constructivist paradigm, is aware of the subjective nature of any inquiry and, as such, assumes the role of a "passionate participant" in his or her research (Guba & Lincoln, 2005, p. 194). This epistemological stance is reflected in the language of this study, where the first person singular pronouns "I", "my", and "me" with reference to the researcher are common. This epistemological position can also be found in the methodological decisions, such as a particular interest in the participants' subjective perspectives.

As researcher of this study, I am indeed a passionate participant of this project. I share the religious beliefs of the student and most of the instructor participants, as well as their concerns and fears of the brutal expressions of injustice taking place towards the Bahá'ís and other minority communities in Iran. I also assume multiple roles in this project and bring much of my own previous experience with BIHE. I started volunteering for BIHE in 2005 as a member of the EFL group that had just begun to develop online EFL courses. Since then I have been involved with the BIHE curriculum as an EFL course developer, EFL 101 and 103 tutor, lead tutor, EFL tutor trainer, placement test developer, and researcher. Regarding the latter, 2005 through 2006, I conducted a study on the efficacy of the EFL 101 pilot course (Madyarov, in press). In 2007, I reviewed the BIHE curriculum and wrote a

proposal for the BIHE administration on how to integrate English instruction into the Institute curriculum in view of the fact that BIHE is moving towards a bilingual distance model of education.

I was closely involved in the development of this bridge course. I have initiated and participated in the course development. I have facilitated the administration of the course as the lead instructor, whose responsibility included leading the training of the instructors, answering questions from the instructors or students, addressing any emerging problems, and staying in touch with BIHE administration.

These previous and current responsibilities provide me with a richer insight about the setting. On the other hand, it created challenges due to the fact that, as a researcher, I had access to confidential information about my participants and was responsible for ethical decisions. Some of these issues were mentioned in more detail in the previous section on ethical aspects of data collection.

Now that the study is complete, I realize that the course had many pedagogical shortcomings that resulted in certain overlooked contradictions in the participants' activity systems, and I should admit that my identity of a course co-developer was in no way diminished by this fact. I celebrated my realization of the many drawbacks that emerged as a result of the study because they opened up doors for further improvement of this course particularly and other online BIHE content courses. Thus, aware of this potential bias, I do not believe it affected my interpretations in any way.

One potentially inhibiting influence of my role in this study comes from the fact that I was a researcher and instructor of one of my own students. This fact could have had drastic effects on the credibility of the findings if not for this participant's personality. It was a very fruitful collaboration of a researcher and participant. I sensed that he must not have allowed himself to speak of my feedback and interaction with him in negative terms. However, this

tendency was true of all other participants, which I attribute to the cultural characteristics of Iranian students or perhaps those of Iranian Bahá'í students. This is why I cannot readily confirm whether this tendency was due to my dual role with this student, and whether it had a potentially negative influence on my findings. Rather, I tend to conclude that our relationship was conducive to obtaining more insightful data and arriving at more accurate findings.

In terms of my relationship with the instructors, I see only positive effects of my role on the results. I have developed a close relationship with all of them. Of the three instructor participants, I personally knew two of them, and we could openly discuss any issues pertaining to the course. Soon after I met the third person, our collegial teamwork started to flourish. I enjoyed our collaboration during the semester, and it was a rewarding experience and certainly critical to the overall quality of my study.

Overall, aware as I am of my personal biases in this project, I come to the conclusion that my relationship to the study participants and my personal investment in this course afforded more methodological benefits than shortcomings. My intensive involvement in BIHE has provided me with knowledge about certain cultural practices and beliefs of BIHE students, instructors, and administrators. The trust that I have gained from the instructors and some of the BIHE staff members allowed me to tap into more in-depth cultural-historical nuances of the setting. This knowledge was critical in interpreting my findings. The discussion of implications in the final chapter requires an understanding of the larger context of the educational institution, which again was available to me through my prior and current experience.

One final comment on my role in this project concerns some of my theoretical struggles. This has affected the final results of this study more than anything else. Cultural historical activity theory is by no means a straightforward frame of reference. I have learned

much of CHAT for the past year by immersing myself in the literature, but nothing could have brought me to the understanding of this theoretical perspective more than the actual research. I was forced to read Hegel and Marx in my attempts to resolve my own contradictions between the dense complexity of the theoretical constructs and my object of learning. This engagement with philosophy left its imprint in my dissertation, which becomes more evident in the final chapter of the manuscript.

Now that this study is over, I must admit I barely scratched the surface of CHAT and socio-cultural theory. My interpretations are subjective not so much because of the many roles I had to play in this project, but largely because the theory seems to leave much room for interpretation. What follows next is a researcher's take on the understanding of contradictions in human activities.

CHAPTER FOUR: RESULTS

Overview

This section discusses the results of the study that focused on the following research questions:

1. What types of contradictions arise in the central activity systems of individual learners of the target course?

    1.1. What primary contradictions arise in the central activity systems of learners in the target course?

    1.2. What secondary contradictions arise in the central activity systems of learners in the target course?

    1.3. What tertiary contradictions arise in the central activity systems of learners in the target course?

    1.4. What quaternary contradictions arise in the central activity systems of learners in the target course?

2. What are the consequences of the identified contradictions?

    2.1. What are the consequences of the identified primary contradictions?

    2.2. What are the consequences of the identified secondary contradictions?

    2.3. What are the consequences of the identified tertiary contradictions?

    2.4. What are the consequences of the identified quaternary contradictions?

Contradictions and their consequences theoretically belong to the unit of analysis of activity. This implies tracing consistencies in disturbances and their solutions that occur at

the action level. Engeström (1999b) refers to this methodology as visibilization, where contradictions within and between the elements of activity become visible through disturbances and/or "unremarkable innovations" (p. 68). Thus, it was critical to move back and forth between the units of analysis of activity and action when addressing the research questions in this study. The microgenetic processes of the participants were happening at the level of actions, and as such, they provided most evidence for the findings. The level of activity, however, comes into play during the interpretation of contradictions and consequences because they exist only at the level of activity, i.e. when they are contextualized in terms of relationships within and between the elements of activity systems: subject, instruments, object, division of labor, community, and rules.

Before proceeding to the individual cases of student activity systems and contradictions that occurred in them, I will highlight one important finding that runs through all six cases and contextualizes their results.

Some CHAT-framed research demonstrated that students may have more than one object in within the context of one course (Jin, 2007). This finding is well-supported in this study. Based on the data available, all six participants had multiple activity systems overlapping and interacting within the context of the course. However, theoretically speaking, there was no activity of course-taking as it was conceived of in the proposal of the study. Because an activity system is defined by its unique object, the course-taking activity would have to have its unique object in order to be identified as such (Engestrom, 1987; Leont'ev, 1978; Nardi, 1996). In my interpretation of the data, the student participants were engaged in activity systems oriented towards their unique objects, but those were not course-taking activities per se. Rather, most of the participants' unique objects had their previous history and now continued to evolve and co-exist within the context of the course, for example: the objects of improving English as a foreign language (EFL), learning critical

thinking, or engaging in criticism. Given the ontology and epistemology of CHAT, it is hardly possible to demarcate the boundaries between these activity systems methodologically because activities are characterized by their dynamic interacting nature (Engestrom, 2001). The boundaries do exist, however, and are manifested through differing objects or motives. Leont'ev (1978) himself stressed the idea that individual actions are polymotivated, meaning that one single action could be a result of multiple objects or motives. Similarly, in this study while students were engaged in the action of writing an analysis paper, they were meeting the needs of multiple motives, for example: improving EFL or learning critical thinking. Depending on the facilitating or constraining circumstances, some of these objects would become more salient than others, which will be discussed further with individual student participants.

Accordingly, the research questions had to be understood in this new light. Theoretically, in this study it is more appropriate to speak of the context of the course than a course-taking activity. I propose a construct of a *shell* to denote such a ready-made, pre-packaged environment that includes all the elements of an activity system except for the subject and object. Courses in modern school-going often represent such shells in that they have a structure imposed upon students, where they could bring in their existing objects, develop new ones, or simply perform a number of isolated actions not oriented towards any object, much like Engeström (1987) suggests. The idea of a shell is somewhat opposite to the organic formation of a human activity in that it is not constructed by the subjects of the activity. An example may help.

A young woman acquires an object of becoming a self-trained professional photographer. She inevitably and quite organically acquires mediating elements that facilitate the transformation of her object towards the desired outcome - making quality photographs that would be worth selling for a living. She buys books and necessary gear

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that serve her as mediating instruments. She inspires her family and friends who start sharing her object and support her in some ways by playing different roles, as models, consultants, or sponsors, who become the community of her activity. This kind of activity is organically formed, and as such all the elements therein organically mediate the subject's original object. If a textbook as a mediator does not satisfy the subject, she naturally eliminates it because it is not conducive to the transformation of the object. She may, in fact, join a course or an organization that would facilitate the transformation of her object. Such a course would represent for her a shell that she enters with her own object. Other students in that course will be driven by their own differing objects, for example, getting a certificate to satisfy their employer. Because it is a shell, some of its elements could be non-conducive to the transformation of the object of our new photographer, in which case, she will naturally avoid performing those actions. However, if she is expected to comply, she will, but this time this action will be oriented towards the exchange value of the object, such as a grade (more discussion on this orientation is forthcoming).

Thus, a shell is in a way an inorganic context in that individual subjects entering it from outside have not created it on their own to suit their motives. Sometimes they match the needs of the subjects and their objects very well, and such courses are considered successful. When they do not, however, the subjects decide to comply by forming their own objects or by bringing in those that would naturally fit the shell.

What transpired in this study is that the shell of the critical thinking course caused multiple activity systems of one subject to co-emerge and co-exist for several months until this shell ran its course at the end of the semester. One possible reason for this co-emergence of differing activity systems is favorable mediators conducive to the transformation of these diverse objects. Another reason is the imposing rules that force the emergence of some objects. This construct of shells may have insightful implications for

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pedagogical practice. However, at this point this interpretation has some implications for the research questions.

When operationalizing the central activity systems in this course, I referred to the course-taking activities of individual student participants. In light of the finding discussed above, the central activity system becomes re-conceptualized as multiple co-existing activity systems within the shell of the course, such as those oriented towards improving EFL, learning critical thinking, or engaging in criticism. The contradictions and their consequences, which are the center of gravity in the research questions, become viewed as contradictions and consequences within those particular activity systems as they are constructed within the course shell. This last condition is important because my research design was targeting the shell of this course, and there is no data available in this study about the repercussions of these contradictions and consequences in those same independent activity systems outside of this course.

In keeping with this finding, the discussion of this chapter is organized in the following way. First, I provide a brief profile of the student participant followed by a discussion of his or her course shell with all mediating elements in it. Then, I discuss the student's activity systems that co-emerged within the course shell and their historical development within the semester. This contextualizes the subsequent discussion of the contradictions and consequences in these activity systems – the focus of the actual research questions. This discussion will be followed by a summary of the findings for that particular student.

Azita

Azita's Profile

The data for this part of the chapter for all student participants came primarily from interviews with the participants. Examples of questions included: What is your daily routine?

Do you do anything besides taking classes? Tell me about your family. Do you do any Bahá'í-related activities? Other questions elicited this information indirectly through our discussion of course-related issues. The students' posts to forums also provided insights about them as subjects of their central activity systems.

Azita is a 23-year-old female student. She is a Bahá'í like other BIHE students. She is single and lives with her mother and father. Her sister, who teaches English, apparently lives separately, but they see each other twice or three times a week.

Azita seems to have a good balance of creative and analytical skills. She likes to play the santoor, an Iranian instrument of the dulcimer family, and does calligraphy. She likes music and particularly mentioned classical music. At the same time, she is attracted to everything that has to do with computers. In her background survey, she indicated that she had been using Yahoo! Messenger for 10 years and communicated by email extensively. In fact, computers had been her passion for a few years. When she entered BIHE five semesters ago (equal to 2.5 years), her intention was to study computer engineering. However, according to her, because of an oversight in the BIHE administration, she ended up studying English literature instead, where most courses are taught in English. Two semesters ago, she changed her major to management. In her background survey, she states, "I like to improve my skills and to be a professional member in my subjects ....I also like to be a useful member in my society," (April 26, 2008).

In the meantime, while taking an average of 16 credit hours of coursework at BIHE per semester, Azita works for a computer company where she repairs computers and does related paperwork. Her working hours last from 8 am until 3 pm Saturday through Wednesday (weekends in Iran fall on Thursdays and Fridays). She says that her parents have enough money to support her, but she chose to work because she likes the job and prefers to have her own money. Azita could take fewer classes, but it is important for her to

graduate as soon as possible. Her weeks-long silence periods after my repetitive email requests for interviews may be an indication of her extremely busy schedule, or a possible lack of time management.

I believe one particular aspect of Azita's personality played a key a role in her central activity systems that emerged in this course. She comes across more as an emotional and sentimental person than not. She is quick to point out things she likes or does not like. "I love" is a high frequency phrase in her vocabulary, and it shows up in interviews, forum posts, and analysis papers. When recalling her recent course-related actions, she said, "Every time I want to do my assignments I'm so nervous," which may be indicative of her predisposition for emotional reactions. In my interactions with her and in observing her online behavior, I also noticed frequent shifts in her opinion and mood. In one of the interviews in Yahoo! Messenger, she became suddenly upset about the poor connection and made it very clear to me by text-messaging me the following, "I cannot hear you. It's not fair! I cannot hear you!" (interview, June, 25, 2008), and the next second she went on to discuss the issue at hand. Her opinion about her current major in management and online learning swung dramatically from "loving" and "great experience" to "I don't' like this" and "one of the big problems" within several weeks.

At the same time, Azita is a very considerate and polite, sometimes too polite to be willing to tell the truth – a typical characteristic of the Bahá'í Iranian culture. *Dear*, *please,* and *I'm sorry* were commonly expressed in her interactions with me and her professor. If I were to draw Azita's personality in broad brush strokes, I would say she is a vibrant, energetic somewhat outspoken young woman, who has her own professional and personal goals about which she is passionate. She tends to have a change of heart about issues she does not feel strongly about. She likes to communicate with people, but may not volunteer the first contact.

Evidence for the construction of the participants' activities comes from all data sources employed in this study: analysis papers, online forums, and other evidence of online behavior, interviews with the student participants and their instructors, interaction with their instructors through electronic messages and sometimes conference calls. One needs to realize that this kind of evidence is not sufficient to draw an absolutely conclusive picture of the students' activity systems due to the lack of direct contact with the participants. Therefore, certain findings remain tentative.

Azita, was engaged in three different activity systems that correspond to the following three objects or motives: 1) learning critical thinking, 2) improving EFL, and 3) maintaining a good self-image. It is important to note that Azita also exhibited strong interest in the grade, which I chose to interpret as an exchange value-orientation of the otherwise use value-oriented objects of learning critical thinking and EFL. This is in line with the discussion of Engeström's understanding of primary contradictions in the objects of school-going activities (see p. 36 above). A more detailed discussion of this nature of primary contradictions is forthcoming.

In light of the discussion above, the course acted as a favorable context, a convenient vehicle that included all the necessary facilities for the existence of these activities: instruments, division or labor, community, and rules. These mediating elements are the common denominators for the differing objects; hence my discussion will start with them.

I purposefully made the activity system of learning critical thinking more salient in Figure 13 because it is the shell that had a pedagogical goal of mediating students' learning of critical thinking. Being a shell, it includes activity system elements that are common to all other activity systems within this shell: similar instruments, division of labor, community, and

rules. In addition to just being a shell, it happened to be Azita's activity system too because she did have an object of learning critical thinking, albeit very weak and unstable.

In this activity system, one of the mediating instruments was EFL. This is due to the content-based nature of the course. This is one of the enlightening advantages of CHAT in that it is able to demonstrate that the linguistic medium of instruction in a content-based course (or any course for that matter) is a mediating instrument, and as such it begs for improvement if not adequate to fulfill its mediating functions. This study consistently showed how EFL as a mediating instrument in the given setting proved inadequate, which drew much of the subjects' attention, whether they had an object of EFL or not. When EFL is also an object of its activity, which is the case with Azita, this interplay brings about its own dynamics. Such a dual role of certain elements as objects and instruments in two different activities is common, and Engeström (1987) discusses them in the context of instrument-producing activities, whose object is the production of instruments that are utilized as such in other activities. Thus, in this course, whatever was the object of the students' activity, EFL was placed into the category of mediating instruments in that it helped students understand the readings and produce their assignments by means of English.

Other mediating instruments included study materials and assignments. In Aztia's group, the teacher posted Power Point slides for the first article to facilitate their reading. The course also included information about the contributors, the authors of the articles, and glossaries that in the html version were hyperlinked inside the text. Assignments were also part of the mediating instruments, and they included the analysis papers for every module, three problem-solution forums, and two optional assignments: pre-writing assignments, and conference calls. It is important to note that assignments could also belong to the rule node of the activity systems because they establish rules and as such have a restricting mediating power. It is possible to theorize a distinction between assignments as

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instruments versus rules. In the former, the students would genuinely use assignments to transform their use-oriented objects, such as learning critical thinking. In the latter case, the subjects would comply with requirements and as such have more of an exchange value orientation to the object. Methodologically, this distinction was impossible to establish due to the missing face-to-face contact and perhaps due to the blurred and unstable borderline between the two functions of assignments.
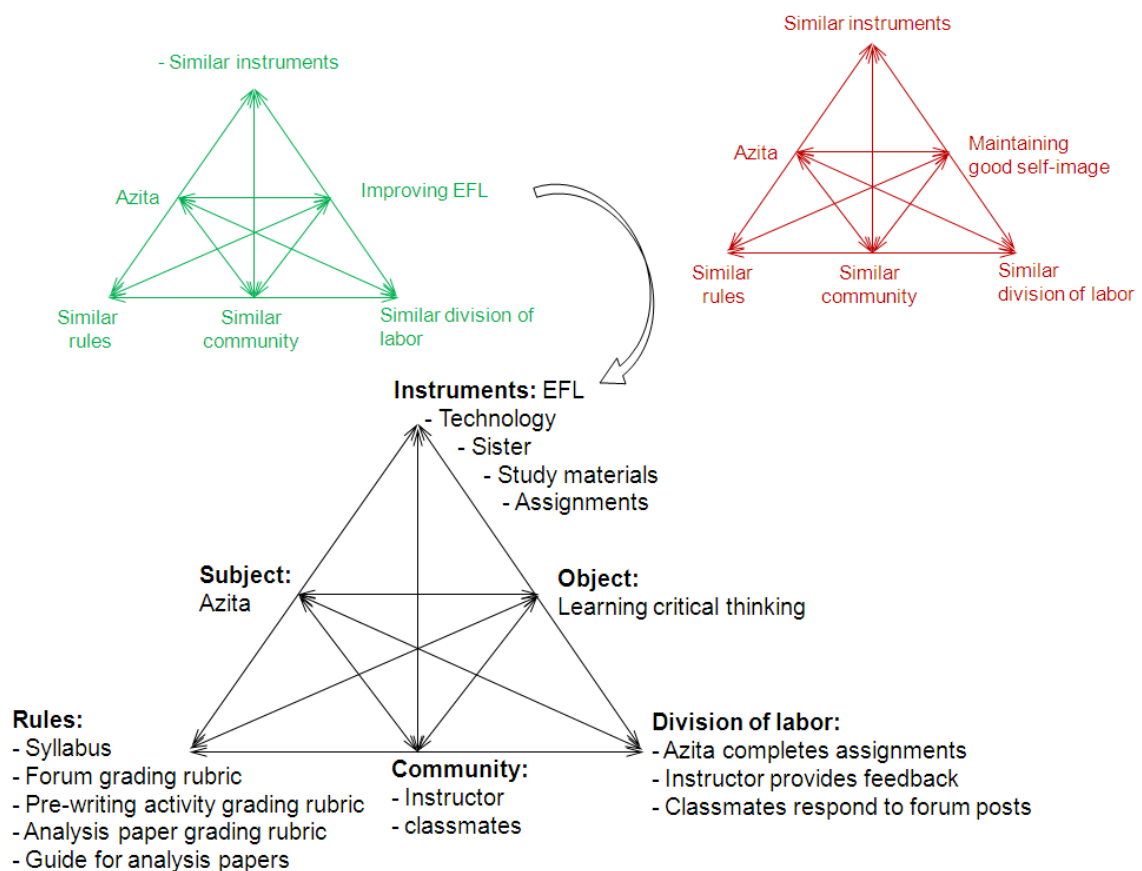
Figure 13. Azita's central activity systems in the course-taking context.

Under the technology category, the mediating instruments included the Moodle content-management system, the articles primarily in html format with hyperlinked glossary

items, the dial-up Internet connection, and computer-based dictionaries. Azita made it very

clear that she preferred the html articles with hyperlinks and computer-based dictionaries.

Another mediating instrument in Azita's activity system is her English-speaking sister. From

the interviews with Azita, it appeared that her sister acted more as a help-on-demand

resource, much like any other instrument we use to mediate our actions. If an instrument is

not helpful, we either improve it or replace it with a better one. Thus, of all the elements of

the activity system, the instruments node seemed most suitable for Azita's sister given the

function she fulfilled.

The division of labor included the roles that each member in this course-taking context

played (see Figure 13). There were other roles played by other members of this activity,

such as a teaching assistant, instructional technology assistant, and myself as the course

coordinator. However, because they played no role in the mediation of Azita's actions

according to the data obtained, the decision was not to include them in Azita's activity

systems.

The rules were established by the course developers through the course syllabus,

which in the Moodle environment is commonly referred to as the Universal Course

Structure (UCS). In addition to describing the course goals, objectives, topics, and the

calendar, the UCS stipulated the grading policy and due dates. For example, all the

assignments were due at 11pm of the due date. For every day late, the assignment would

lose 10% of the grade. Students had a 10-day grace period that they could apply to any

one analysis paper. The grading rubrics were also part of the rules in this course context,

and they included the grading rubrics for the problem-solution forums (Appendix D),

analysis papers (Appendix C), optional pre-writing activities (Appendix I), and optional

conference calls (Appendix J). The Guide for Analysis Papers (see Appendix B) that

described what to include in the analysis papers and provided an example of one was also

part of the rules because it seemed to have a constraining mediating power on Azita's actions as we shall see later.

Finally, the community is defined as Azita's instructor and her classmates. The classmates as a community were present only when Azita oriented herself to the exchange value of her objects, i.e. the grade. In this orientation her actions were mediated by the rule to make forum posts and respond to each other with a certain level of participation. This conclusion is based on the overall level of interactivity among the group-mates and the quality of the forum posts. According to the instructor's observations, "it felt like ten private tutorials that [she] was having with ten different people (personal communication August 22, 2008). The instructor, on the other hand, did share with Azita the intended use value orientation in the object of learning critical thinking and EFL. In this sense, Azita's instructor had an agency unlike her sister. The instructors in this course played a critical mediating role in transforming and shaping the student participants' objects, and for this reason they deserve special attention.

Azita's instructor was a Bahá'í who volunteered to teach this course as a service to BIHE. She was a native-speaker of English and resided in the United States. According to her self-introduction post to the group forum, she had had professional experience in designing gardens, teaching piano, painting, public television, and radio, among other things. Her children had grown up and lived independently.

Azita's instructor had taught communication courses for 14 years and was the Chair of the Communication Department in a college in a Northeastern city in the U.S. According to her, she had taught many courses that integrated critical thinking and writing one way or another. This critical thinking course, however, was a new experience because its students were non-native speakers of English and because this was a distance course. She had to learn Moodle, but she was somewhat familiar with Skype.

Her teaching style and the nature of feedback reflected her extensive experience as a professor of communication and rhetoric. She provided feedback promptly and responded to her students' inquires in a timely manner. In terms of the content feedback, she encouraged her students to follow the Guide for Analysis Papers (Appendix B), but more importantly she looked for a clear and focused argument. She was quick to note contradictory reasoning and lack of justification in students' opinions. It was important to her that thoughts in written discourse be organized into developed paragraphs. In terms of language, she tended to point out repetitive errors and those that obscured meaning.

As Figure13 shows, Azita's three activity systems had similar mediating elements because these activities happened to co-exist in the shell of the course. This finding common to all student participants was discussed earlier in this chapter. All these activities have existed outside of the critical thinking course, except perhaps for the activity of learning critical thinking, which, as data suggest, emerged in this course. It is impossible to depict their relationships, but one can see a glimpse of these relationships by looking at the interaction between the activity systems of learning critical thinking and improving EFL. It was often the case that Azita had to address some English-related issues, such as difficult vocabulary items or sentences, while she was trying to work on the actions oriented towards learning critical thinking. Thus, EFL often interacted with other activity systems as a mediating instrument that had its own existence outside of this course shell.

Depending on the circumstances, one or another activity system would become predominant. Historically, these activity systems also changed their shape in the shell of the course. The following sections address some aspects of historicity of Azita's central activity systems.

Azita's Activity of Learning Critical Thinking

Azita's object of learning critical thinking started emerging from the beginning of the course. In the background survey prior to the beginning of the course, she wrote, "I like this subject [philosophy], because it makes me confused. It is so confusing and exciting". In her first interview, one month into the semester, Azita still expressed interest in the subject matter, "I like to ...learn how to think critically". In the same interview, she claimed to have searched the Internet to learn about critical thinking, although on another occasion in the same interview, we observe the following exchange (interview, June 1, 2008):

[Researcher] How about critical thinking? You said you like the content. Do you do anything else in addition to the course to understand, to learn it?

[Azita] Not yet [laughs].

These contradictory statements may indicate her non-committal attitude towards the object of learning critical thinking. She started forming this object, but there is no evidence that she worked on transforming it actively by engaging through self-initiated actions, and she may have felt guilty about this lack of genuine interest, which manifested itself as an apologetic laugh.

Then, her fledgling object of critical thinking seemed to start waning. In the second interview, almost two months into the semester, Azita did not indicate any particular interest in critical thinking unlike in the first interview. When asked, she could state with some understanding which elements of critical thinking had to be included in the analysis papers, "We should discuss the main ideas of the writer. The author and we should say his or her purposes, his goals, and we should mention ... his perspectives and his opinions" (interview, June 25, 2008). However, those were not discussed in her papers quite explicitly according to the course expectations despite the repeated effort of the instructor to bring this missing discussion to her attention throughout the whole semester. This clearly indicates her confusion about the nature of critical thinking as it was conceived of in this

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course. In her analysis papers she consistently discussed what she liked and did not like about the articles, or agreed and disagreed with the authors instead of discussing the authors' purpose, implied questions, assumptions, perspectives, implications, and other elements discussed in the Guide for Analysis Paper. The following is an excerpt from Analysis Paper 1 (May 8, 2008):

> Instead of saying *"unique intellectual capacity"*, he could say exclusive intellectual capacity. Because the meaning of exclusive is more complete and more suitable in this phrase. Also, using thinking instead of reflection, social scientists instead of psychologists, etc may be more suitable.

> This tendency continued into her last paper: "He should write in a way that everyone would understand his meanings; I think his language is not so well," (Analysis Paper 8, August 4, 2008). Azita provided similar comments on the ideas of the articles as well. This take on critical thinking may be indicative of her dismissive attitude towards this object or a differing conception of this object. In one of her interviews, she admitted that she had to criticize something, so she would pick at least at the language in order to satisfy her instructor, which seemed to be a signal of another object – maintaining a good self-image to be discussed next.

As a result, her analysis papers received a lower grade for content or for the lack of revisions based on the instructor's feedback in the draft paper. In the interview, her instructor mentioned that a missing unifying argument and justification of her opinion had a major need for improvement. Her last analysis paper was the proverbial last straw in the downfall of the object of learning critical thinking. When discussing this paper in our last interview, Azita admitted the reason of this loss of interest, "no, not lack of time. Maybe because of not paying attention [laughs]. Because of being tired of this semester, of work, of anything," (interview, August 17, 2008).

Azita's participation in problem solution forums designed to elicit critical analysis in real-life situations were also indicative of the weak interest in critical thinking, or at least of her differing understanding of critical thinking. She tended to agree with what her classmates would say without adding much of her insight or without justifying her opinion, let alone analyzing the elements of critical thinking provided in the scenario. This is her response to a classmate in Problem Solution Forum 1 that discussed a scenario with a 7-year-old boy playing video-games and his mother concerned about his well-being (Problem Solution Forum 1, June 3, 2008):

[Classmate] I think if she wants to solve this problem she should not repel playing video games in first steps by using violence, rather she should move beside her husband and son by using amour and politics. It means that she should make friendship by playing with them or at least by sharing in their happiness till they play, so that they can accept her as their friend. After awhile she can suggest some other works beside playing video games such as going on a pick nick, watching a film in cinema, going park, and playing football with them. ...

[Azita] I agree with you [classmate]. She should have done so in order to solve the problem. I also agree that she should have consult with his husband to get help and assistance.

A number of circumstances that have affected the object of critical thinking also affected the other co-existing objects in this course: improving English, maintaining a good self-image. However, overall the data show that Azita did start developing an object of learning critical thinking, which then lost its momentum possibly due to a differing conception of critical thinking imposed upon her by the course expectations, i.e. the rules of the activity system: the grading rubric of analysis papers and forum discussion, the Guide for Analysis Papers, and perhaps her instructor. In the last interview, we can still observe

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some glimpses of her genuine interest in the course articles when I asked her to specify the reason for making effort in writing the papers:

[Azita] One of them was grade … [laughs]. The other one I was motivate eh the whole meaning of the article.

[Researcher] You were interested in the ideas of the article?

[Azita] Yes, and the conclusion of the article.

Thus, it appears from the data that Azita planted a seed of the object of learning critical thinking at the beginning of the semester, which first changed its orientation from use value to exchange value and then became completely diminished due to strong underlying contradictions, which will be discussed in more detail in the section about contradictions.

At this point, it is important to discuss the distinction between use and exchange value orientation in objects in more detail. To recall Engeström's (1987) discussion of primary contradictions in school-going activities, in a capitalist socio-economic formation, schools tend to promote a use and exchange value contradiction in all the elements of students' activity systems. This contradiction is manifested through the competition between learning for genuine *use* purposes of skills or knowledge and learning for the sake of *exchanging* this learning for a grade. Thus, an academic object of a student subject inherently has two competing forces: genuine interest in the subject and interest in the grade. In this study, depending on the circumstances the participants' academic objects changed their orientation from use to exchange value orientation, and Azita represents one such example.

This evidence for this exchange orientation comes from the interviews and her responses in the background survey. For example, in the survey she indicated that one of her goals for this course was to get an A. In our interviews, she would bring up this subject from time to time too, "I like to ...learn how to … think critically, yes. And ... I like to pass this course. And also we HAVE to pass [laughs] this course," (interview, June 1, 2008). Another

source of evidence was her actions in the course. During the first month of the semester, Azita was not aware that the Problem Solution Forums were required assignments. When I explained to her the grading policy, she replied, "From now I want to take part in order to take more grade," (interview, June 25, 2008). This confusion possibly explained why she dismissed the Problem Solution Forums and instead directed her attention to the pre-writing forums. According to her, she thought the pre-writing activities were the required assignments. This also indicates her object of getting a good grade in the course. It is important to note, however, that while at the beginning she was motivated to get an A, in her last interview she made a statement that indicated a possible slackening of this exchange orientation (interview, August 17, 2008):

[Researcher] Do you sometimes put less effort in your assignment and get a lower grade? Is it possible for you?

[Azita] Yes, everything is possible.

Elsewhere in the same interview, we had the following exchange about one of her analysis papers:

[Researcher] Were you trying to get the best grade? The best mark? Or you were happy with an average?

[Azita] Everyone likes to get a complete grade, the whole mark, but .. I know how to say that in Iran but I don't know how to say that in Farsi.

This conversation took place after all the papers were turned in, including the last two analysis papers that were disappointing both to Azita and her instructor. A possible interpretation of Azita's lowering the bar for the definition of a good grade was the demands of the course that she did not expect at the beginning of the course when she responded to the background survey about her ambitious goals.

Azita's Activity of Improving EFL

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Unlike critical thinking, the object of improving English had a much stronger footing due its previous long history. She studied in the department of English literature, as was mentioned above. According to the interviews, she took a TOEFL class outside of BIHE in order to improve her English. She watched movies in English, spoke English to her sister from time to time, and read articles in English on the Internet. She "loved" the EFL courses in the previous semesters (background survey, June 3, 2008). Azita liked the Statistics for Business course that was also taught in English in her department. She explains that she appreciated that the instructor spoke in English and the book was in English.

Regarding the place of this activity system in the context of the course, Azita had the following to say, "the previous EFL courses ... I think it was more interesting than this EFL 104 [critical thinking course]" (interview, June 25, 2008). This may indicate a possible dissatisfaction with the critical thinking course due to the fact that it did not teach English as explicitly as the other EFL courses through vocabulary and grammar assignments and through feedback that focused on the language. In other words, according to her perception, the context of the course was not very conducive to the transformation of her object of improving English although there were some exceptions, which I interpret as a weakening of the EFL object. On the other hand, even at the end of the semester Azita admitted that this course had helped her improve her English. According to her, she had problems with writing due to the fact she did not like to write in general, and we had a discussion about some of the areas of improvement that her instructor indicated to her (interview, August 17, 2008):

[Researcher] Before [your instructor] told you [about your organization], did you know that your organization was not good?

[Azita] Yes, I know I have problems in my writing.

[Researcher] Did you know that it was about organization?

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[Azita] No, I didn't. I know that I have so many problems.

[Researcher] Do you think your professor helped you understand your writing better?

[Azita] Yes, 100%.

Apparently because this course was not very accommodating to her needs of improving EFL, or perhaps because there were too many strong contradictions in it, this object seemed to have weakened slightly by the end of the semester.

Azita's Activity of Maintaining a Good Self-Image

In her dissertation that investigated ESL students' behavior in a writing class, Jin (2007) found that some of her participants exhibited evidence of a motive that she called "maintaining a good student image" (p. 154). This study had tentative evidence for a similar finding with some participants, in particular, Azita. This object is hard to define because it interferes greatly with the object of getting a good grade. Azita's participation in this course was sometimes marked by a superficial attitude. Most of her responses to the optional and required forum discussions were short and did not provide any insights. Some of her revisions in the analysis papers were marked with this characteristic too. Below are several revisions that Azita made to her paper based on her instructor's feedback, which is given in parenthesis (Analysis Paper 4, June 9, 2008)

[Draft paper] But, these explanations are not complete and enough. He should talk more about them.... (What would you like him to address, specifically?)

[Final paper with revisions] But, these explanations are not complete and enough. He should talk more about them. *I think he should say the differences between these kinds and should explain how they are related to each other*.

The following is a similar example from Analysis Paper 3 (May 26, 2008):

[Draft paper] ...the author is always asking us some questions in order to make us think

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about the facts and materials mentioned here. (How would you respond to his questions?)

[Final paper with revisions] ...the author is always asking us some questions in order to make us think about the facts and materials mentioned here. *I would like to think to his questions and try to respond them logically and truly.*

Instances like these could be interpreted as actions motivated by the exchange value orientation of the critical thinking object - a strategy to create an impression that the student is making effort and addressing the instructor's comments. However, there is one small piece of evidence that supports the existence of the good self-image object. The following is our interaction in the last interview (August 17, 2008):

[Researcher] Did you sometimes have a feeling that "I need to do that because otherwise my professor will think that I'm a lazy student?" [laughs]

[Azita] Yes, [laughs] ... Most of the time I thought so.

By the end of the semester, however, when according to her, she was "tired of this semester, of work, of anything", her revisions in Analysis Paper 8 were very minimal (interview, August 17, 2008). She did not even correct a number of capitalization errors and the spelling of "apposite". Her object of maintaining a good self-image dwindled if it existed.
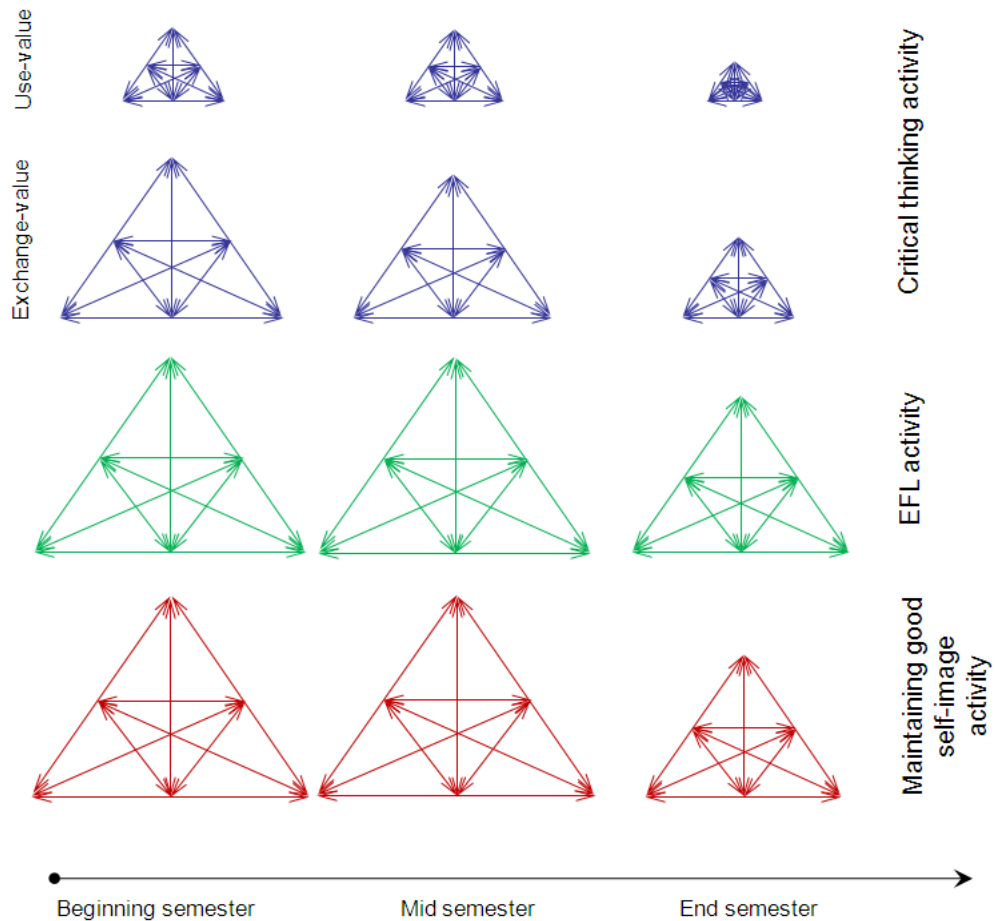
Summary of Azita's Central Activity Systems

Figure 14. Illustration of the historicity of Azita's activity systems in the course.

Of the three activity systems that Azita engaged in within the shell of this course some maintained some stability, others changed due to contradictions that will be discussed in the following section. Figure 14 attempts to provide a crude representation of the historicity of these three activity systems. It is crude because of the stated limitation in the

methodology of this course. Unfortunately, interpretations had to be based on evidence collected via distance. Besides, being dynamic in nature, activity systems cannot be possibly represented with three activity triangles within the span of one semester. Nevertheless, this diagram gives an idea of what the student participants felt most (large triangle) and least (small triangle) motivated about. One can also observe that there is no growth of any of the three activity systems over time. Instead, most of them tend to shrink. This pattern in the given situation is not optimistic because with the weakening of the activity systems, the subject is losing the motives for her actions, and those are motives that facilitate learning in one way or another. If this state of affairs had continued longer, Azita would probably have lost the EFL object completely within the context of the course too.

Azita's Contradictions and Their Consequences

Having contextualized course-related actions performed by Azita in her central activity systems, we can now discuss the contradictions and their consequences. As the section on Data Analysis describes, this process involved several steps. First, disturbances and innovations in the student participants' course-related actions were identified in Azita's course assignments, Moodle logs and forums, and confirmed through interviews. Second, these disturbances and innovations were formulated as sentences that put disturbances and innovations into the context of the action. Third, these sentences were reviewed to identify consistencies based on which contradictions and consequences were constructed.

Primary Contradictions in Azita's Activity Systems

To reiterate Engeström's (1987) interpretation of the primary contradictions in the school-going activity discussed in the literature review (see p. 36), the use value orientation

implies a meaningful learning directed towards real-life use of the product of the school-going activity. The exchange value orientation implies a grade-driven approach, where learning actions are simply exchanged for a grade. All the other elements of the activity system accordingly can change their orientation from being useful instruments, division of labor, community, or rules, to being conformist equivalents of these elements resulting in actions transforming the object at the superficial level.

The contradiction between use and exchange value is the most common type of primary contradiction cited in the literature (Engeström, 1987; Ilyenkov, 1982). Regardless of their type, primary contradictions are said to be the engines of all change and progress. They do not get resolved in a given socio-economic formation, but they create secondary contradictions in their activity systems that require resolutions, which when implemented lead to progress. According to Engeström (1987), all elements of an activity system have primary contradictions. However, due to methodological and theoretical limitations of this study, I discuss only the most obvious instances of primary contradictions that emerged from the data (Table 9).

Primary contradictions in objects.

Following the theoretical underpinnings, the primary contradiction in the academic objects of learning critical thinking and improving EFL has the dual nature of use and exchange value. When the actions are oriented towards the use value, the student is striving to learn for the sake of genuine learning. When the actions are oriented towards the exchange value, the student is interested in the grade. Methodologically, this distinction is made through the student participants' self-reports, their instructors' perception, and some evidence from the student-produced assignments.

Azita exhibited some interest in learning critical thinking for its use value. She mentioned several times that she was attracted to philosophy, and at the end of the

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semester, as was discussed above. It is hard to state conclusively, but Azita's exchange value orientation seemed predominant from the very beginning when she stated that she expected to get an A in this course in the background survey. This orientation was present more in the critical thinking object because she did not express much genuine interest or produced many actions that would indicate her orientation towards genuine learning of critical thinking. As was mentioned above, this orientation had lost its power closer to the end of the semester, when she lowered the bar and was no longer ambitions about her grade plans, (interview, August, 17, 2008):

[Researcher] So when you're saying that the first motivation was the grade, were you trying to get the best grade, the best mark? Or you were happy with an average?

[Azita] Everyone likes to get a complete grade, the whole mark, *but,* I know how to say that [a Persian saying that she could not translate] in Iran, but I don't know how to say that in Farsi....

[Researcher] Do you sometimes put less effort in your assignment and get a lower grade? Is it possible for you?

[Azita] Yes, everything is possible.

Her revisions were often superficial, and in her last paper, as was demonstrated from the examples above.

This primary contradiction in the critical thinking object gave rise to secondary contradictions. For example, her orientation to get a good grade created a secondary contradiction between her object and 1) tight due dates (rules), 2) her misunderstanding of the Guide for Analysis Paper (rule), or her instructor's comments to correct errors (community). These three kinds of secondary contradictions are discussed in more depth in the next section.

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This primary contradiction in the object of improving English worked in a similar way, except that this time Azita's actions were directed more towards the use value of the object. She actively used English for personal purposes, such as watching movies or reading websites. In her answer to the survey question about the role of English in her life, she wrote (interview, April 26, 2008):

> This is so important to me because it is the most common language in all over the world and it is going to become the international language. So everybody should learn it and know this language as well as the native speakers.

However, this object too lost its momentum closer to the end of the semester, when she was no longer interested in correcting simple spelling errors such as *apposite* for *opposite* (Analysis Paper 8, August 4, 2008).

Just as with any primary contradiction, this one resulted in secondary contradictions between Azita's object to improve EFL and her errors pointed out by her instructor (community). Given the nature of this object, the assumption is that Azita voluntarily makes effort to improve her English. Therefore, the feedback from the instructor may be viewed more as an instrument rather than a disturbance because it is expected and welcomed by Azita. Nevertheless, for the sake of methodological consistency, I chose to view any feedback from the instructor as a disturbance, which in turn could be either facilitating or inhibiting.

Concerning the primary contradiction in the object of maintaining self-image, it is perhaps the most challenging to identify using the guiding theoretical underpinnings. Maintaining a good self-image seems to be a purely psychological need. Following the theoretical framework, orientation towards the exchange value in this primary contradiction would mean using good self-image as money to exchange for something. Orientation towards the use value would mean using it for its own sake, which appears to be a more

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reasonable explanation for Azita's object of self-image. However, the problem with this interpretation is that the other side of this primary contradiction – the exchange value - does not seem to exist. If a person has something that is of use value, by the law of contradiction, another person would want to have it as well and would propose to exchange it for something else. This mechanism does not seem to work with the maintaining self-image object. It is also not clear what consequences this contradiction, if its one, created. A possible reason is because these objects were weaker than the objects of getting a good grade and improving EFL.

Primary contradiction in technological instruments.

Another primary contradiction worth discussing is in the technological instruments of Internet and Moodle. Engeström (1987) gives an example of instruments in a doctor's practice, such as medications and medical tools. These instruments have use and exchange value in that they too exist as commodities. The doctor has to purchase them (exchange them for money) before he can *use* them to work towards his object of treating patients. This contradiction forces the doctor to think twice before he purchases expensive instruments, and this hard thinking is a disturbance caused by the secondary contradiction between doctor's need to treat patients and the price of the instrument.

Azita had high-speed Internet, according to the background survey. If we apply the same logic to define the primary contradiction in Internet as a mediating instrument, we find that Azita must have made a conscious decision to purchase this kind of Internet connection, and her decision saved her from potential secondary contradictions between the Internet-based technologies and, for instance, her objects that required the use of Internet. From the data obtained, there were no disturbances due to poor Internet connection during the use of Moodle. Had she used Skype or Yahoo! Messenger, she would have experienced many disturbances with the connection. Despite being a high

speed connection, it is not sufficient to utilize voice-over-IP technologies. During our interviews, we experienced numerous instances of delays, disconnections, and background noise.

Neither did she have any observed contradictions due to the quality of the CD materials. These instruments were designed and developed in house and as such had no cost for the students. This low exchange value of the CD materials could have resulted in the poor quality of experience and caused secondary contradictions in Azita's activity systems.

Primary contradiction in classmates as a community.

Some of Azita's initial forum posts made an impression that she was genuinely interested in communicating with her classmates. This excerpt from Azita's first pre-writing activity is the same that was cited above (Pre-writing Activity 1, May 12, 2008):

Hi Dears,

As you know we are going to write some analysis papers about some specific articles. This is for the first time I am going to do that and I do not know enough about this work. But, as you know, we should mention purpose, questions, concepts, information, assumptions, perspectives, and implications of the author in one article. Let's help each other and share ideas to do our best. I just wanted to start the discussion of pre-writing activity. I am waiting for your co-operation.

This post was met with a silent wall for the rest of the semester. Regarding her overall participation in the course and in particular in the forums, her instructor said, "She might have been a little more interested in the beginning. My impression was she attempted the forums at the beginning, and then she quit doing that" (personal communication, August 22, 2008). It appears that Azita must have been drawn to the use value in her classmates as community, which by Engeström's (1987) definition would be evident in active collaboration

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among classmates. She wanted to *use* her classmates' ideas to facilitate her own understanding of the articles and assignments. This kind of relationship in the online community, where members share ideas that they have and receive in return helpful ideas from other members, is a desirable relationship. However, having experienced a lack of interest from her classmates, she retreated and interacted with them minimally for the sake of the grade.

Table 9

Primary Contradictions in Azita's Activity Systems

Contradictions	Consequences in the three activity systems		
	Learning critical thinking	Improving EFL	Maintaining a good self-image
Use vs. exchange value in objects	Secondary contradictions between objects and 1) rule (due dates rule), 2) community (instructor feedback), and 3) rule (Guide for Analysis Papers)	Secondary contradictions of community (instructor feedback) vs. object	No theoretical contradiction, but possible secondary contradictions between the object and 1) rule (due dates rule), 2) community (instructor feedback), and 3) rule (Guide for Analysis Papers)
Use vs. exchange value in technological instruments	No observed consequences	No observed consequences	No observed consequences
Use vs. exchange value in classmates (community)	Created secondary contradiction of rule (participation in forums) vs. object	Created secondary contradiction of rule (participation in forums) vs. object	Created secondary contradiction of rule (participation in forums) vs. object

According my interpretation, classmates as a community element were present only in the exchange value of Azita's activities of learning critical thinking and improving EFL. By definition, community should have a shared interest in their individual objects (Greenhow & Belbas, 2007; Kaptelinin, 1996; Wells, 2004). Azita apparently made an attempt to establish a shared interest in her community of classmates for the purpose of discussing the course content. However, this attempt was futile. In the end, Azita tended to exhibit an exchange orientation towards her classmates, which was manifested through short and superficial comments that expressed her conformity with whatever everyone said. Azita's instructor noticed this exchange orientation in her group of students too, "I was disappointed there was not much interaction. Especially at the beginning, it felt like 10 private tutorials that I was having with 10 different people" (interview, August 22, 2008). While the course developers, as an outside activity system, included the element of classmate community in the course shell, this element did not have a use value orientation in many students' individual activity systems because they saw their activity systems differently. They saw no need in the classmate community to transform their own objects. They only needed their instructor and sometimes the course coordinator to resolve issues that the instructor is not able to resolve. This finding clearly reflects Engeström's (1987) depiction of community as separate members versus a team of inquirers, a depiction of an activity oriented towards the exchange value of learning.

Thus, Azita's orientation towards the exchange value of her classmates created a secondary contradiction between the rule to collaborate with classmates in the grading rubric and her grade orientation in her objects of critical thinking and improving EFL, and perhaps her object of maintaining a good self-image.

As one can see, most identified primary contradictions had the nature of use versus exchange value. The contradiction of maintaining a good self-image, however, did not seem to have any contradictions. It was more of a psychological need, which was indeed a pre-

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requisite for the existence of any object, according to Leont'ev (1978). Further, these contradictions gave rise to the secondary contradictions that will be discussed in the following section. In this sense, these primary contradictions had a positive consequence on the respective activity systems. However, Azita's orientation towards the use value in her primary contradictions of learning critical thinking and improving EFL did not last long, and I would argue it was partly due to the culture of the other students as community to be overly orientated towards the exchange value. Another possible and more underlying reason is the setup of the course shell that encouraged an exchange value orientation more than the use value orientation.

Secondary Contradictions in Azita's Activity Systems

Most contradictions that transpired in this study were at the secondary level. This is not surprising because these contradictions are the heart of any activity. Engeström (1987, 1999, 2001, 2007) in his discussion of contradictions in organization activity systems puts much emphasis on secondary contradictions that he refers to as inner contradictions of activity systems.

Insufficient EFL versus Azita's objects.

One secondary contradiction in Azita's activity systems was between the insufficient EFL, as an instrument and her objects, meaning that EFL as an instrument prevented Azita from a smooth transformation of her objects. This contradiction was manifested through the instructor-initiated disturbances in the feedback on draft analysis papers. There were a total of 12 such instructor-initiated disturbances in Azita's papers. Some of this feedback was caused by the instructor's genuine confusion over what Azita wanted to say. Another kind of feedback asked to restate an idea in a clearer way even though the original wording did not cause any misunderstanding. Finally, the instructor also generated disturbances because

Azita's errors were either repetitive, as the instructor herself indicated, or apparently because they were too noticeable, such as fragments.

In addition to instructor-initiated disturbances Azita had self-initiated disturbances. Methodologically, it was challenging to tap into these kinds of disturbances because I could not directly observe the participants' course-related actions. However, two sources of evidence provide some justification for this conclusion. One source included Azita's own explicit statements about confusing parts of the article in her papers, for example, "I do not understand what he [the author] means when he says 'the term faith as it is commonly used, particularly in Western thought, implies accepting as true that which one cannot prove to be true.'" Often such statements were followed up by the instructor-initiated disturbances implying an action to solve this misunderstanding, for example, "What do you think it means?" The second source to identify self-initiated disturbances in Azita's actions was the interviews, in which Azita would often mention how difficult it was to read the course articles and to write papers based on them.

When addressed, these contradictions presumably had positive consequences for Azita's object of improving English. One such positive consequence was a repeated use of dictionaries, hyperlinked glossary words, her sister's help, and less rarely referring to a grammar book. The most frequent way to solve those disturbances was re-reading the articles many times to gain a better understanding, "I'd study the articles more and more for some times, even more than 10 or 20 times to learn new things, new ideas of that article" (interview, June 25, 2008). When unresolved, this contradiction potentially could impede Azita's activity systems, which I do not have data to support.

Thus, this secondary contradiction pushed for much more engaged interaction with the course readings and resulted in the introduction of new instruments in her activity system. It is interesting to note that at the end of the semester when Azita felt exhausted of the many contradictions in the course, she tended to ignore many comments from her instructor

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including simple spelling errors such as *apposite* for *opposite.* Thus, even the exchange value orientation did not motivate her to perform actions oriented towards her objects. I attribute this to the considerable weakening of all her objects in the course by the end of the semester. Table 10 shows the summary of consequences of this secondary contradiction.

Although I could not methodologically identify which of these consequences were applicable to Azita's other activity systems, it was possible to infer some impacts. For example, through a more active interaction with the readings and papers, Azita could facilitate the transformation of her objects of learning critical thinking. Conversely, this could seriously impede her motive to learn critical thinking and be a deadly consequence for this activity system. When the instructor's comments were addressed, this also could facilitate the transformation of the object of maintaining a good self-image. According to the instructor, what mattered most to her is the effort of the student to work on the comments rather than the correct answer. However, the consequences could be just the opposite when those comments were dismissed.

Guide for analysis papers versus Azita's objects.

Another secondary contradiction that became visible through Azita's disturbances was caused by her misunderstanding of the requirements as outlined in the guide for analysis papers (rule) and her objects. These disturbances were identified through her instructor's feedback that asked to include missing elements in the analysis papers, for example, the author's implications, questions, perspectives, or Azita's personal reflections. The other source of evidence for these disturbances was the interviews with Azita, in which she attested to this challenge and claimed that she solved these disturbances (interview, June 5, 2008):

But after practicing and reading the guide and the feedback received from my instructor, I learned ... how to write these analysis papers. ... We should discuss the

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main ideas of the writer. The author and we should say his or her purposes, his goals, and we should mention ... his perspectives and his opinions …

This is a relatively accurate response that she provided without much hesitation during the interview. In her pre-writing activity discussed earlier, she also explicitly stated the parts to be included in the analysis papers. However, surprisingly, a cursory read of her papers showed that her discussion was limited to the author's ideas, not even purpose, sometimes implied questions, sometimes implications, and her personal thoughts, mostly added after the instructor's feedback. None of her papers included all the required elements.

This contradiction was never resolved because her analysis papers through the end of the semester missed those required elements, and yet Azita was confident that she understood how to discuss them. Interestingly, this contradiction did not have obvious negative consequences on Azita's activity systems. There were a total of only three instructor-initiated disturbances about missing elements of the analysis papers that the Guide required. The nature of the instructor's feedback was different from what the Guide required. Perhaps, being more experienced in teaching critical thinking, Azita's instructor focused on the development of strong coherent arguments in her papers. It is this drawback that concerned Azita's instructor most, as she expressed it in the interview (to be discussed next). While there is no clear indication of negative consequences of this contradiction, we can infer some positive consequences in the form of more active engagement with the readings and the Guide for Analysis Papers, according to Azita's claims in the interviews. Whether these actions affected the objects of learning critical thinking and improving English in any way is hard to claim.

Instructor's content-related expectations versus Azita's objects.

The next related secondary contradiction is that between the instructor's content-related expectations and Azita's need to transform her objects. The disturbances for this contradiction were exclusively instructor-initiated, and they were dramatically prevalent in

the instructor's feedback. There were a total of 21 such comments. Most of the time, the instructor challenged Azita to go beyond the surface reading and develop a strong coherent argument based on what she read in the articles and on her reasoning. The following excerpt from the instructor says it all (interview, August 22, 2008):

Her drafts were always much weaker than her final paper. So I know she responded to some extend to my comments, but my disappointment in the end was that her draft her first drafts were always like, you know, pulling teeth. ...I always felt like I had to point out. ... She didn't follow through, and she didn't develop arguments. ... Her papers were like a list. ... There was no insight. There was nothing original. … It was regurgitating.

In Azita's papers, her instructor would leave summary comments such as this (Analysis Paper 3, May 26, 2008):

Azita

Your language is pretty good, and your organization is pretty good too. But overall the paper just introduces concepts and doesn't really explore them other than on a superficial level. It might be better for you to spend some time thinking about your paper before turning it in and go a little deeper. For example, you have responded to the ethical examples above in two different ways. I wonder if you can explain why in the case of killing, you take a deontologist approach, but not in the case of stealing.

Please take more time and think deeply about these chapters. You contradict yourself which weakens your argument. You might want to say that you value life more than property, in which case you would do anything to save a life. But then you would have to explain why, especially if you believe that spiritual life is what matters, not material life.

These disturbances clearly are the evidence of the secondary contradiction, and they had some visible negative consequences. For example, Azita seemed to have developed a

set of strategies that would allow her to address the problem on the surface level: deletion of problem parts in her papers and providing superficial revisions. As a result of failed attempts to go in-depth with her analyses, Azita's papers received lower grades, which directly affected her exchange value orientation in the critical thinking object. While there was no solid evidence for the other objects in her activities, we could infer that this contradiction also negatively affected her object of maintaining a good self-image.

On the other hand, there was some evidence for positive consequences of this contradiction. In our interviews with Azita, I asked her how she addressed her instructor's comments. Most of the time such comments would push her to read the articles again. Sometimes, she would use a dictionary to clarify the language. Then, she would have to make corrections in her papers, substantial or not, depending on her understanding of the problem or willingness to persevere. When she did not know what the instructor was asking for, she would delete that disturbing part of her paper. In other words, this secondary contradiction had some positive consequences that became transparent in the form of habitual regulative behaviors, such as those described above. Whether they affected the actual objects of improving English and learning critical thinking is hard to claim, but one can infer that these efforts resulted in superficial revisions, not much learning took place. Rather, it seems that Azita was oriented either toward the exchange value in her critical thinking object or toward maintaining self-image object.

Due dates versus Azita's objects.

This secondary contradiction between the rule and Azita's objects became visible through several instances of late paper submissions. There were seven such instances throughout the semester, but two of them were coupled with Azita's illness, which will be discussed as another secondary contradiction. While there is enough evidence to identify this consistent contradiction that Azita must have made some effort to address, there is no evidence on specific consequences of this contradiction. According to the course syllabus

(rule), Azita would lose 10% for every day late. Yet, she did not because the instructor thought it unfair to drop points for lateness in the papers because this would wrongly imply a poorer quality of the paper.

In terms of positive consequences of this contradiction, the data do not tell us much, except for one instance in the interview, where Azita expressed her opinion about due dates, "... due dates are so important for each assignments for each course because it make the students to do the assignments on time and causes them to pay attention to [inaudible] and assignment" (interview, August 17, 2008). This piece of evidence can tentatively indicate Azita's regulatory behaviors to avoid late submissions, such as marking the calendar, pacing work on assignments, which in turn could evoke more intensive engagement with the assignments, hence improved critical thinking and English.

There could have been negative consequences too that affected the transformation of Azita's objects of maintaining a good self-image. However, this is again nothing but a tentative inference.

Azita's illness versus her objects.

Closer to the end of the semester, Azita felt sick, and this lasted at least two weeks that fell on Modules 7 and 8. She also let her instructor know of this impediment. Thus, visibly this slight contradiction did not produce any negative consequences in that her grade did not suffer because of the late submissions. Her grade, however, did suffer because of a lower quality of papers, particularly in these two last modules in the course. Both Azita and her instructor noted this during the interviews. According to Azita, this was partly due to her illness, but beyond that she mentioned the fact of being exhausted by the end of the semester, "Maybe because of not paying attention, because of being tired of this semester, of work, of anything [laughs]" (interview, August 17, 2008).

Distance technologies versus Azita's objects.

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There is a slight indication of a secondary contradiction between the distance technologies that Azita presumably found unsatisfactory and her objects. Multiple disturbances can be attributed to this contradiction: late submissions, poor revisions of papers, poor communication with her classmates, and poor participation in online discussions. However, methodologically it is impossible to make this connection evident. The only link that exists between some of these disturbances and the distance technologies is Azita's opinion about online education, "Because it's so hard now, and they [students] think they can't learn anything. ... I think it was bad effect on students ... having no face-to-face classes with the professors" (interview, August, 17, 2008). This secondary contradiction did not seem to exist at the beginning of the semester when Azita expressed interest in online education, as was discussed in the section about Azita's activity systems. Thus, potentially we can infer that this contradiction negatively affected all three of Azita's objects. There is also no evidence to show what Azita did to resolve this contradiction.

It appears that this contradiction was caused by a quaternary contradiction between the government's activity and Azita's course-related activities. This contradiction will be discussed in the following section.

Azita's ignorance of UCS versus her objects.

The universal course structure (UCS) describes many rules for Azita's course-related activities, for example, due dates, grading policy, weighting of assignments, and required and optional assignments. According to the data, Azita was unaware of many such rules because she did not read the UCS carefully. Azita's following response to my question about the grading policy demonstrates this confusion "I think 64 percent [inaudible] of the grade are analysis papers, and the rest are the activities the pre-writing activities. Yes?" (interview, June 25, 2008). Because of this disturbance, she effectively missed Problem Solution Forum 1, which negatively affected her grade. On the other hand, because she

was working on the pre-writing activities, this compensated for her final course grade. It is

hard to say what consequences this contradiction had on the other activity systems.

Table 10

Secondary Contradictions in Azita's Activity Systems

	Consequences in activity systems		
Contradictions	Learning critical thinking	Improving EFL	Maintaining a good self image
Insufficient EFL (instrument) vs. object	**Use value orientation** - Possibly better understanding of readings - Possibly further impediment of the object **Exchange value orientation** - improved the grade when comments addressed - lowered the grade when comments dismissed	**Use value orientation** - More engagement with EFL: use of glossed links, grammar book, re-reading articles and guide for analysis papers, revisions of papers - introduction of new instruments: dictionaries, sister's help **Exchange value orientation** - improved the grade when comments addressed - lowered the grade when comments dismissed	- improved self-image when comments addressed - lowered self-image when comments dismissed
Misunderstanding	**Use value orientation**	**Use value orientation**	No consequence or evidence

requirements of the Guide for Analysis Papers (rule) vs. object	More engagement with the guide and possibly better understanding of critical thinking	More engagement with the guide and possibly added improvement of English	
Instructor's content-related expectations (community) vs. object	**Use value orientation** - More engagement with the Guide and possibly better understanding of critical thinking - possibly more further weakening of object of critical thinking **Exchange value orientation** - Lower grades when comments not addressed properly - Avoidance strategies: deletion of problem areas or superficial correction	**Use value orientation** - More engagement with the guide and possibly added improvement of English	- Possibly weakened self-image when comments not addressed properly - avoidance strategies: deletion of problem areas or superficial correction
Due dates (rules) vs. object	**Use value orientation** Possibly more intensive	**Use value orientation** Possibly more intensive engagement	Possibly worsened self-image

	engagement with assignments, hence improved critical thinking	with assignments, hence improved English	when due dates no met
	Exchange value orientation	**Exchange value orientation**	
	- Possibly regulative behaviors to avoid being late: marking calendar, pacing work on assignments	- Possibly regulative behaviors to avoid being late: marking calendar, pacing work on assignments	
	- Or no consequence	- Or no consequence	
Azita's illness (subject) vs. object	**Use value orientation** Less engagement with assignments, hence no improvement of critical thinking	**Use value orientation** Less engagement with assignments, hence no improvement of English	Possibly worsened self-image due to poor quality of papers
	Exchange value orientation Lower grades for some assignments	**Exchange value orientation** Lower grades for some assignments	
Unsatisfactory distance technologies	**Use value orientation** Possibly less engagement with assignments, hence no	**Use value orientation** Less engagement with assignments, hence no English	Possible impediment to the object of maintaining a good image

(instrument) vs. object	improvement of critical thinking **Exchange value orientation** Possible impediment to the object of getting a good grade	**Exchange value orientation** Possible impediment to the object of getting a good grade	
Azita's ignorance of UCS (rules) vs. her objects	**Use value orientation** No evidence of consequence **Exchange value orientation** - Lower grade for Problem Solution Forum 1 - Better grades for optional pre-writing activities	**Use value orientation** No evidence of consequence **Exchange value orientation** Not applicable (no English-related requirements in forums)	No evidence of consequence

Quaternary Contradictions in Azita's Activity Systems

Government's activity versus Azita's course activities.

The data show that there were two quaternary contradictions in Azita's activity systems that had negative consequences at least on Azita's objects.

The first one comes from the Iranian government's actions in their activity to exterminate the Bahá'í community in Iran. When BIHE was established in 1987, it functioned as a blended version of correspondence and face-to-face instruction. Students would come to the central facilities usually in Tehran to receive instruction from their professors, following which they would return home to self-study and then come back again to the facilities for more interaction with their professors and for testing purposes. As persecutions intensified, the government started confiscating more properties from BIHE. In fact, the reason for starting the online EFL program was triggered by this hostile activity of the government. However, until recently there were still many courses following the same correspondence and face-to-face format. In Spring 2008, the government closed down more facilities in Tehran making it impossible for many classes to meet face-to-face. The orientations for the online courses that had been normally conducted face-to-face also were restricted to the online environment. Many BIHE courses were forced to go online for the first time in Spring 2008.

This quaternary contradiction between the government's activity and possibly all four of Azita's course activities had a negative consequence of creating secondary contradiction in Azita's activity systems. These secondary contradictions became manifested through the tensions between Azita's need to transform her objects and the forced upon mediators typical of online instruction: differing kinds of instruments for interaction, differing kinds of rules and the division of labor in a different kind of community. In our last conversation, she said, "because it's so hard now, and they think they [students] can't learn anything. I think it

has ... bad effect on students. ...Because BIHE became online, many students don't like this university. ... I'm not learning much from online courses" (interview, August 17, 2008). Whether this claim about other students is true or overgeneralized is hard to say. However, this statement is telling something of Azita's personal attitude towards online education across all BIHE courses.

One possible interpretation was that Azita is not satisfied with the level of interaction in online education. I attempted to probe this source of secondary contradiction by introducing a hypothetical scenario, and her response only confirmed her personal bias against online education in general (interview, August 17, 2008):

[Researcher] If you had millions and millions of dollars, and you could make big changes in BIHE, but you could not change it to face to face, what would you do for BIHE?

[Azita] I'd buy a building [laughs], a very big building, and I don't pay attention to the government. It allows me or it doesn't allow me.

My attempts to remind her of the conditions of this hypothetical scenario to remain online did not yield different results. Azita seemed adamant about not wanting to have her classes online.

It is interesting to note that in her background survey at the beginning of the semester, Azita was very optimistic about online education, "Yes, I have taken some online courses in BIHE. It was a great experience to have online courses because this kind of educating improves our English and internet skills. I prefer online courses," (interview, April 26, 2008). A serious disturbance of an underlying contradiction must have created this dramatic change in Azita's opinion. One possible reason is Azita's personality of being easily affected by external forces. Another possible reason is the sudden forced transition of all face-to-face classes to the online format. The closing down of facilities took place a few weeks before the beginning of the spring semester 2008. The faculty virtually had no time

to make reasonable accommodations to their face-to-face courses. Neither had they time to make adjustments to their own pedagogical styles and strategies to better serve the students in the online environment. My interaction with other students in the course confirmed this possibility. Some of them explicitly stated that online courses of BIHE faculty in Iran were disorganized and hard to follow. This source of disturbances was also confirmed with the BIHE administrator I interviewed for the study (interview, August 23, 2008).

Based on these data, I conclude that the quaternary contradiction between the government's activity to eradicate the Bahá'í community in Iran and Azita's course activities created a secondary contradiction between the new online instruments, rules, division of labor, and community in her other online classes that otherwise would have remained face-to-face and not disturbing. These secondary contradictions in Azita's other courses reinforced similar contradictions in her activity systems in the critical thinking course. Whether this link between other newly and hastily established online courses and the critical thinking course exists or not, it does not change the nature of this quaternary contradiction. Table 11 shows how this contradiction potentially had negative consequences on all three of Azita's activity systems: learning critical thinking, improving English, and maintaining a good self-image.

Azita's work activity versus course activities.

The last quaternary contradiction that emerged from the data was between Azita's work at a computer company and potentially all three of her activities. A number of disturbances could be a signal of this contradiction: late submissions, poor quality of papers and forum posts. Methodologically, it is not possible to establish this connection. However, in one of the interviews, Azita mentioned her work kept her busy and potentially could negatively affect her course related actions (interview, August 17, 2008):

At the beginning of the semester I was more active. ... But after some time, ... I had so

many jobs to do. I had to pay less attention to these kinds of discussions. I had little time to my assignments.

This contradiction apparently created a secondary contradiction in Azita's course activities between the due dates (rules) and some her course-related objects, as was discussed in the section about secondary contradictions.

Table 11

Quaternary Contradictions in Azita's Activity Systems

Contradictions	Consequences in activity systems		
	Learning critical thinking	Improving EFL	Maintaining a good self image
Government's activity to eradicate the Bahá'í community vs. Azita's activities	Created a secondary contradiction between distance technologies (instrument) and object	Created a secondary contradiction between distance technologies (instrument) and object	Created a secondary contradiction between distance technologies (instrument) and object
Azita's work activity vs. her course activities	Created a secondary contradiction between due dates (rule) and object	Created a secondary contradiction between due dates (rule) and object	Created a secondary contradiction between due dates (rule) and object
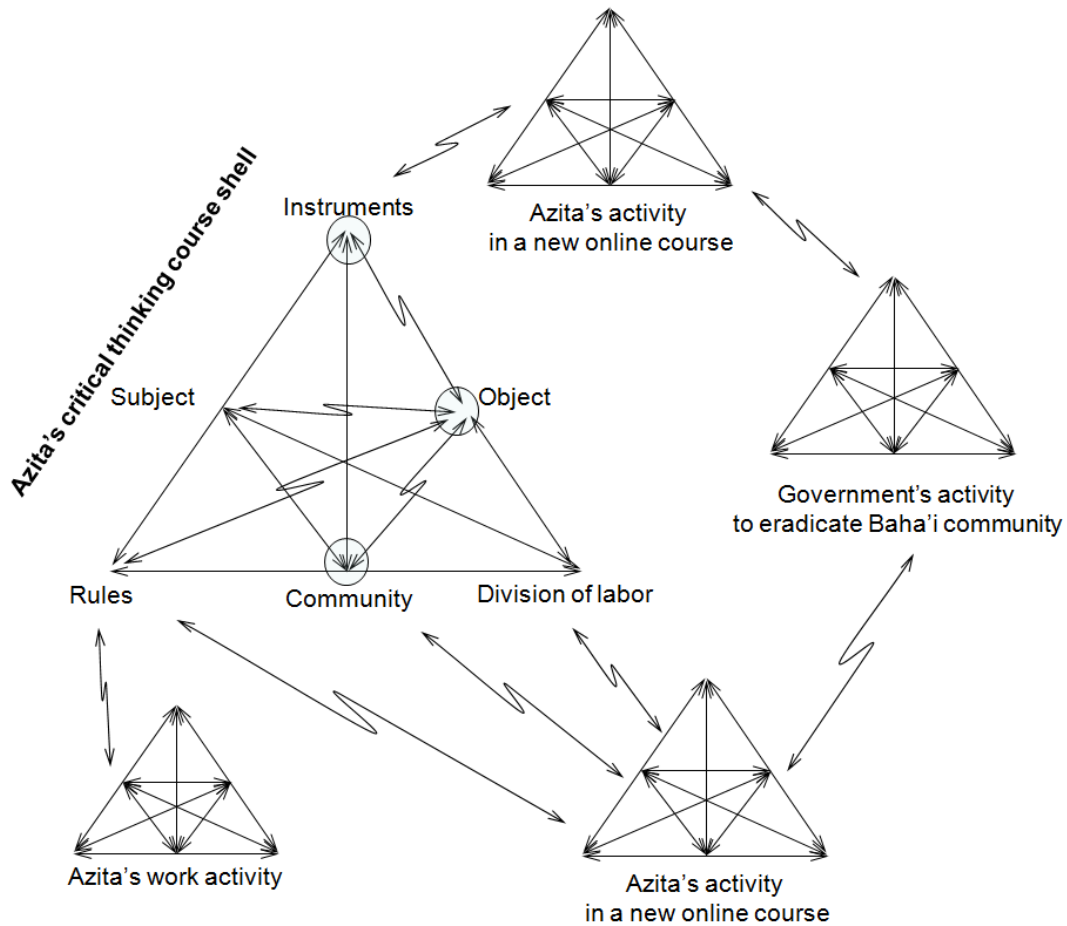
Figure 15. Summary of Azita's contradictions and consequences.

Figure 15 attempts to summarize Azita's contradictions. Note that the triangle in the center is Azita's critical thinking course shell, not one of the actual activity systems. By using the course shell, I can depict the contradictions and consequences in multiple course-related activity systems in one single illustration.

I chose to concentrate only on those primary contradictions that became salient in the data analysis. Among those are the primary contradictions of use and exchange values in the elements of object and community (classmates). The data showed that Azita was mostly driven to the exchange value in the objects of critical thinking and more use value in the object of EFL. She was driven to the use value of classmates as community, but later she changed her orientation to the exchange value too. There is some indication that Azita naturally tended to be more attracted to the use value in the primary contradictions in her

activity systems, and this was unfortunate because the course shell did not seem to provide enough use value to her being grade-driven. The primary contradiction in technological instruments also had the use and exchange value, but due to Azita's prior decision to purchase high speed internet, she effectively resolved potential secondary contradictions.

Her primary contradictions gave rise to the secondary contradictions. The primary contradiction in the classmates as a community created a secondary contradiction between Azita's objects and the rule of forum participation in the grading rubric. The same consequence came as a result of the primary contradiction in the community node.

The primary contradictions in the objects of activity system gave rise to the secondary contradictions between the actual object and all elements that were connected to the object. Among those is the contradiction between Azita's objects and her misunderstanding of Guide for Analysis Papers, insufficient EFL, ignorance of UCS, due dates, and her illness.

The secondary contradictions in turn resulted in several new instruments that Azita introduced to her activity systems as regulatory behaviors: a) re-reading of the articles up to five times, b) re-reading of the guide for analysis papers, c) using glossed hyperlinks, d) revisions of analysis papers, e) sister's help, and f) computer-based dictionaries.

It is important to note that a critical disturbance in many secondary contradictions was the instructor's feedback in the analysis papers. If not for this feedback, many of these contradictions would probably not have existed nor caused helpful regulatory behaviors and the introduction of news instruments.

Apart from the positive consequences of the secondary contradictions, there were some negative ones. Those resulted due to failure to address contradictions effectively either because of the lack of strength in the primary contradictions or because of the overwhelming strength of the secondary contradictions (e.g., illness or duties at work). The general pattern of such negative consequences was the lower grades on Azita's

assignments and the weakening of some objects: critical thinking, getting a good grade, and possibly maintaining a good self-image. This finding implies that the strength of objects in students' activity systems depends on the strength of the contradictions in the systems.

There were no tertiary contradictions that affected Azita's activity systems. However, there were two quaternary contradictions. One such tentative contradiction occurred between Azita's activity systems in newly formed online courses that happened to be poorly organized and the government's activity to eradicate the Bahá'í community in Iran. This contradiction caused secondary contradictions in Azita's new online course and in turn triggered another set of quaternary contradictions between those new online course activities and the critical thinking course activities. This resulted in the weakening of Azita's objects in the critical thinking course.

The other quaternary contradiction was caused by Azita's work at a computer company, and this contradiction caused a secondary contradiction between due dates (rules) and Azita's objects in the critical thinking course. The consequences of this contradiction are not visible. It is possible that Azita developed regulatory behaviors of marking a calendar or pacing herself. Otherwise, this contradiction might have contributed negatively to lowering the grades for the assignments and weakening of the course objects.

<p style="text-align:center">Azad</p>

<p style="text-align:center">*Azad's Profile*</p>

Azad, 36, was the oldest participant in this study. He was born into a Bahá'í family. He is married and lives in Tehran, the capital city of Iran. Three years prior to this course he lived in India with his wife. His wife has an MA degree in the English language. She teaches courses in the English and Linguistics department at BIHE.

His personality strikes me as an interesting combination of sincerity and straightforwardness. He repeatedly mentioned his tendency to criticize people. I could attest

to this Azad's self-portrait by observing his interactions in the forum discussions, his analysis papers, and through our interviews. His criticism sometimes collided with emotions, which could result in a somewhat skewed perception of the situation. Thus, while he highly respected his instructor in this course and praised the quality of her feedback, he also perceived her as being biased in that she would not allow him to include his emotions in his analysis papers, "it's just the way of critical thinking that she is teaching me.... But if I go by my way, the way I'm thinking, maybe it's not critical thinking. Maybe it's emotional thinking," (interview, August 25, 2008). He also describes himself as being a man of few words. In his background survey at the beginning of the semester, he wrote that philosophy is "redundant and not useful" (April 26, 2008).

In his professional life, Azad is a full-time executive manager in a computer software company. According to him, he has extensive programming skills. He also applied his expertise to serve BIHE for a few years. He speaks at least three foreign languages: English, German and Russian. He has a strong command of English, which singled him out from many of his classmates. Through my interactions with him, I learned that he gets to use these languages on a regular basis. He travels abroad. In fact, during the course, he left for Germany and Switzerland, for one month. In one of his forum posts, he said that he had a few hobbies: photography, watching movies, and browsing the Internet.

During this semester, Azad was enrolled in seven BIHE courses, while he was working at his full-time job. His day would start around 8:00 am. He would come back around 8pm. Most of his quality study time would fall between 11pm -1 am. It appears that Azad had a very rich schedule, and that he managed to juggle many responsibilities quite successfully.

Azad's Activity Systems

The data obtained indicate that Azad had two activity systems that correspond to the following objects: 1) engaging in criticism and 2) learning critical thinking. As was discussed

earlier, the course acted as a shell, a convenient vehicle, whose facilities (instruments, division of labor, community, and rules) were conducive to the transformation of these objects.

Although Azad did not express much interest in improving his EFL skills, English was still one of the mediating instruments in his course shell. Other mediating instruments included the course assignments, the Guide for Analysis Papers (Appendix B), the articles, information about the authors, and glossaries. The technological instruments were: the Moodle content management system, the articles primarily in the pdf format, and high speed Internet connection. Unlike Azita, Azad preferred the pdf articles because he printed them out and had them in front of him while working on his analysis papers. He rarely used the glossed vocabulary and relied on his guessing skills. He claimed to have never used a dictionary for this course.

The division of labor included three major roles: 1) the instructor's role in providing feedback, 2) his classmates' role in forum participation, and 3) Azad's role in producing assignments. Like in Azita's case, classmates as a community were present only in Azad's exchange orientation in his critical thinking object or else in the criticism object, as we shall see in the discussion that follows.

The rules were the same as those discussed in Azita's case. The Universal Course Structure defined when the assignments were to be turned in, penalty for late submissions, and the 10-day grace period. The grading rubrics for the problem-solution forums (Appendix D); analysis papers (Appendix C); optional pre-writing activities (Appendix I); and optional conference calls (Appendix J); and the Guide for Analysis Papers (Appendix B) were part of the rules.
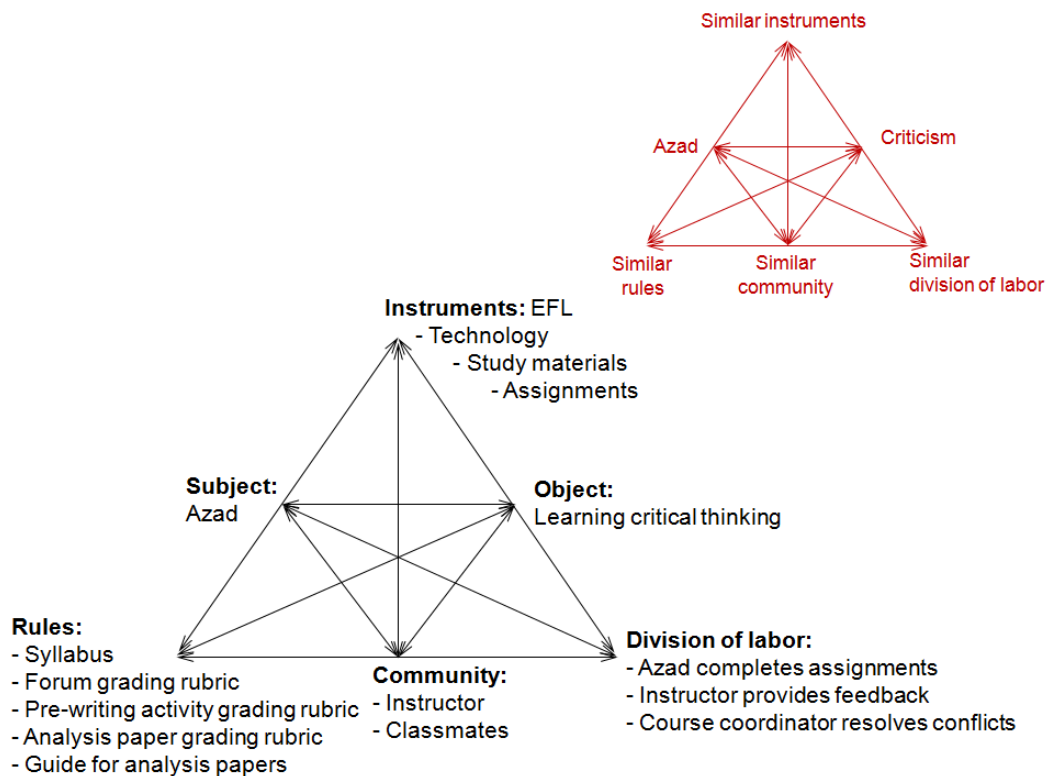
Figure 16. Azad's central activity systems in the course-taking shell.

Finally, Azad's community consisted of his instructor and his classmates. Azad and Azita had the same instructor. Accordingly, Azad was mediated by the same kind of feedback that prioritized clarity of thoughts, consistency of the central argument, and use of evidence in support of the argument. Most language-related feedback was directed towards repetitive errors. Azad and his instructor were alike in some ways. They both had strong opinions, and they often expressed them point-blank. His instructor saw this similarity too, "he likes to criticize things, and I think it's a good thing because I'm like that. Especially as a younger person I was like that," (interview, August 22, 2008).

Figure16 highlights Azad's three activity systems. Because these activities co-existed in the same course shell, they shared most of the mediating elements of the shell. Depending on the circumstances, one of the activity systems would become prevalent. These activity systems had their own lives and historicity within the course shell.

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Azad's Activity of Engaging in Criticism

Azad's object of engaging in criticism was unique in this study. I believe this object played a major role in forming a new object of critical thinking that is discussed next. I chose to distinguish between these Azad's two objects. The discussion that follows provides a rationale for this decision.

An Iranian colleague of mine, who provided some help with the development of the critical thinking course, made a joke once that BIHE students should benefit from this course because in their culture they know how to be critical, but they do not know how to think critically. I believe the BIHE curriculum coordinator, who was the subject-matter consultant for this course, had a similar rationale for selecting critical thinking as a subject matter for the bridge course. These tendencies to criticize instead of thinking critically were somewhat present in Azita's actions, when finding fault with the English native speaking authors' choice of words. However, Azad is probably the only participant whose criticizing actions were so evident as to indicate to an activity of criticizing.

Azad was fully aware of his own predisposition to criticize. The following excerpt from one of the interviews with Azad summarizes the role of criticism in his life, "In my real life I'm somebody who is nosey. I criticize people," (interview, August 12, 2008). Of the six participants, Azad was the most generous in terms of sharing ideas about what did not work at BIHE and in the critical thinking course and why it did not work. In the second interview where the students posted problems from their real life for a group analysis, he shared his concerns about the quality of instruction in BIHE, "It is now 20 years form the beginning of the BIHE. Those you are working in it have learned a lot and it has improved much. Unfortunately it is now some times that some parts of it need improvement," (Problem Solution Forum 2, July 4, 2008). Then, he mentions several problems that concerned him most: students not having voice in the university; half of the instructors not knowing how to

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teach; exam system not being aligned with instruction; the administration being disorganized; and the scheduling of events being messy. His critical attitude was evident in his analysis papers. This excerpt from his analysis of article about logical fallacies followed by his instructor's feedback in parentheses is illustrative (Analysis Paper 7, August 5, 2008):

...If he [the author] wants to say that he is intelligent because he knows all weird names of different kinds of fallacies and their definition with a good example, I think a dictionary is more powerful in the area of intelligence comparing to human being. If he wanted us to be encouraged to remember all these names and their definition, he was wrong, because the detailed long list is not persuasive and I find it even discouraging. (If you wish to say that it isn't necessary to memorize or even to know all of the various types of fallacies, I'm sure there's a way to say this without being sarcastic).

His instructor had a similar impression of Azad's analysis papers (interview, August 22, 2008):

...at the beginning I just thought he was trying to show how brilliant and smart he was, and how he really didn't need this instruction because his English was better than anybody else's. I mean if you look at his [first paper] ... this whole thing was a literary criticism. It wasn't even a good literary criticism. It was just a criticism that "this guy doesn't know how to write. This guy said nothing," but there was no evidence to me that he actually read the paper. So it just looked like he was trying to get by trying to ... schmooze, and then try to butter me up. So I was a little bit suspicious of Azad, and his work ethic.

Azad himself made a distinction between two different kinds of criticism in which he was engaged in this course (interview, July 25, 2008):

[Researcher] Do you really think that [your instructor] is trying to force you to think the way she thinks, or she is trying to force you to think critically?

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[Azad] No, it's not like that. It's just the way of critical thinking that she is teaching me by that way. But if I go by my way the way I'm thinking, maybe it's not critical thinking. Maybe it's emotional thinking.

The course shell provided ideal conditions for Azad's object of engaging in criticism. According to my interpretation, this object remained more or less stable throughout the semester. In the last interview, he made a comment that supports this conclusion, "This course will help me bother people more" (interview, August 12, 2008). This object interacted very closely with the object of critical thinking, which is discussed next.

Azad's Activity of Learning Critical Thinking

The activity of learning critical thinking is different in that I construct it as an activity in which Azad engaged in a systematic method of analysis based on the principles of logic and ethics, which was fostered in this critical thinking course.

In his background survey, Azad made his opinion about philosophy very clear by calling it "redundant and useless" (April 26, 2008). He did not express any interest in critical thinking when asked about his goals for this course in the survey either. In our first interview, he confirmed this initial attitude towards critical thinking as subject matter, but he also added that it started changing (interview, May 26, 2008):

My expertise is in computer, and as you know, in computer science everything is black and white: one or zero, nothing else. In this course of critical thinking, if you're just considering the gray skills between this black and white, so that's why it's interesting for me.

I interpret this emerging interest in the subject of critical thinking as a gradual development of a new object within the shell of the course. In our last interview, Azad made a few more remarks that indicated a further transformation of his object of critical thinking.

This one is particularly illustrative, "One thing I should mention is that this course is the only course I will read again. The subject was very interesting," (interview, August 12, 2008).

It is hard to provide evidence for the transformation of this object looking at Azad's actions because the quality of his forum posts or discussion in analysis papers may also be an indication of his exchange value orientation in the critical thinking objects or in the object of engaging in criticism. However, we can perceive some glimpses of this object in the course-specific language that Azad started to integrate in his papers, such as *assume, claim, reasoning, infallible, unbiased, fallibility, interpretations, perspectives, evidence, logically accepted*, etc. Many of these words are in fact an indication of the required elements of analysis papers, as outlined by the grading rubric and the Guide for Analysis Papers. Here is an example of a sentence that integrates a few of his words: "Even if the reasoning was infallible, he mentions that the best thinkers or philosophers never agree to the conclusion that is reached by reasoning," (Analysis Paper 3, May 31, 2008). This is a very typical sentence in his analysis papers. He clearly picked up the discourse of critical thinking very well. He comments on his language in his analysis papers this way (interview, August 12, 2008):

> ...while I study this critical thinking, I started to ...have long essays long sentences and all the things that is something new for me.... I don't like it much, but it is some new way of thinking. That's why it's interesting.

In other words, Azad seemed to have been attracted to the notion of critical thinking presented in the course and developed this interest through the semester, which I interpret as an emergent and further transformation of the object of critical thinking.

While Azad's interest in critical thinking is interpreted as a use value orientation, according to Engeström (1987), this student's interest in the grade is the exchange value orientation. Both his actions and words attested to its presence. In his survey, he wrote that his only goal for the course was "just to pass and get the grade" (April 26, 2008). He

repeatedly mentioned this motive in our interviews. The following interaction explains and justifies his intentions very well (interview, August 12, 2008):

It was something like three years that I was working for BIHE, and there was no mention of having a certificate. Last year they told me that if you want to work in BIHE you should have some degree or certificate. Now they are telling me that I can't work for BIHE, and I'm starting to take courses and get certificates, so I can render my services to BIHE.

Apparently, BIHE originally did not issue any certificates or grades. Bahá'í students would study for the sake of knowledge and skills, and the faculty and staff would provide education out of service. They still do because most of the staff and all faculty members from Iran work for BIHE on a voluntary basis while still having their own paid jobs. However, the expectations of students, faculty, and staff are changing. Since recently the BIHE administration has been trying to raise their standards of instruction and administration to keep up with requirements current in western universities. According to Azad, this trend required him to obtain a certificate that he presumably does not have, hence his evident and justified orientation towards grades.

Azad's actions were indicative of this orientation as well. His participation in the optional pre-writing forums was one such piece of evidence. Half-way through the semester, Azad attempted a pre-writing activity. When asked the reason for this action, he responded this way (interview, August 12, 2008):

[Azad] Because if you check my grades I have something like 80%, and I wanted to get an A instead of B.

[Researcher] So passing is not enough, you need to get an A, right?

[Azad] No, passing is important, but how you pass is more important. If there is a small effort between A and B, why miss it?

Azad was also the only student in his group who requested the optional conference calls from his instructor, and he did so three times. He admitted that one of the reasons behind these actions was to earn extra bonus points although he was also genuinely interested in learning about his instructor's culture and maintaining his speaking abilities.

Another possible piece of evidence is Azad's regulative behaviors to avoid drops in the grade due to late submissions. In our conversations, Azad would often demonstrate his knowledge of the grading system. He knew exactly how many forum posts he was expected to make to get the grade he needed, and he knew how many extra points the optional assignments added to his final course grade. The Moodle log of his paper submissions indicates to an interesting pattern (Table 12). All of the draft papers before his trip to Europe arrived late, whereas his final papers came on time except for one paper that was only five hours late. Aware of the fact that the drafts are not graded unlike the final papers that lose 10% for every day late, Azad must have been careful not to lose his grades. Unfortunately, I have not been able to confirm this finding with Azad, so this interpretation however sound it may be, still remains tentative.

Table 12

Azad's Pattern of Paper Submissions

	Draft	Final paper
Analysis Paper 1	6 days late	On time
Analysis Paper 2	4 days late	5 hours late
Analysis Paper 3	6 days late	On time
Analysis Paper 4	6 days late	On time

According to the data and my interpretations, none of Azad's objects lost strength during the course. This is in spite of many contradictions and Azad's activity systems encountered. They all maintained stability, and the object of critical thinking even gained momentum. Figure 17 illustrates the historicity of Azad's activity systems. The next section discusses the contradictions and their consequences in the corresponding activity systems.
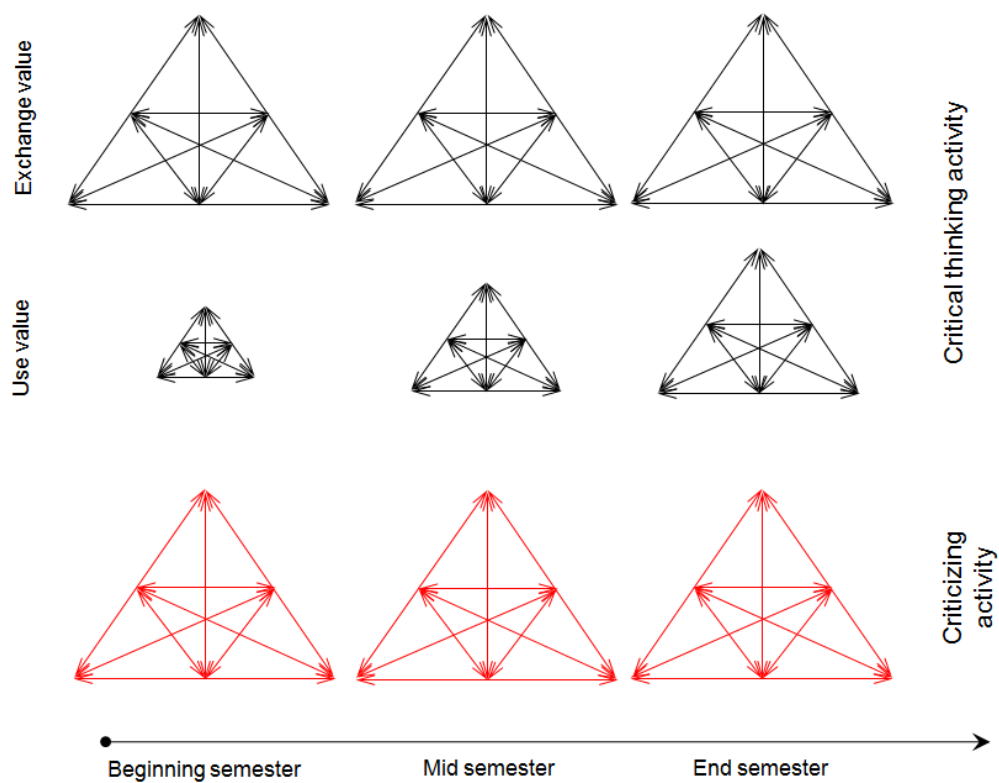
Figure 17. Historicity of Azad's activity systems in the course.

Azad's Contradictions and Their Consequences

Primary Contradictions in Azad's Activity Systems

Similar to Azita's activity systems, Azad's primary contradictions had the exchange and use value nature. Once again, because of the limitations in the methodology, only selected primary contradictions will be addressed.

Primary contradiction in objects.

The primary contradiction in the object of engaging in criticism presents a similar theoretical problem to Azita's object of maintaining a good self-image. Orientation towards the use value would mean using it for its own sake, which seems a reasonable explanation for Azad's object of criticism. It was part of his personality to be "nosey" and to "criticize people" as he described himself (interview, August 12, 2008). However, the problem with this interpretation is again that the other side of this primary contradiction – the exchange value - does not seem to exist. If a person has something that is of use value, by the law of contradiction, another person would want to have it as well and would propose to exchange it for something else. This mechanism does not seem to work with criticism because nobody would naturally want to obtain criticism in exchange for anything else. A valuable opinion and constructive criticism do not belong to this category because Azad did not engage in these kinds of activities. His criticism had an absolutely personal psychological need. However, we can clearly identify consequences of this contradiction, if it is one, in the form of secondary contradiction between Azad's need to criticize and his instructor's content-related expectations (Table 14).

The primary contradiction in the object of critical thinking has a use and exchange value nature. On the one hand, Azad was genuinely interested in knowing how to think critically for the sake of thinking critically. For example, he humorously remarked that know he could use critical thinking abilities to "bother people" with his criticism better (interview,

August 12, 2008). In other words, he wanted to use his critical thinking skills as a mediating instrument in his object of criticizing other people. This use orientation in the object created secondary contradictions between his object of critical thinking and 1) insufficient EFL (instrument), 2) instructor's content-related expectations (community), and 3) classmates (community).

On the other hand, Azad was oriented towards the exchange value of the critical thinking object. The discussion above shows that this orientation had a strong presence in his activity system. Azad's effort to overcome this contradiction had consequences in the form of secondary contradictions between his object, on the one hand, and 1) due dates (rule) and 2) instructor's content-related expectations (community), on the other hand.

Observing these similar consequences of different orientations of the same object and even consequences of completely different objects, it is important to note that when actions are poly-motivated. It is hard to identify which motive in particular caused a specific secondary contradiction. For example, in the case of the secondary contradiction between Azad's object and instructor's content-related expectations, both his motive to criticize and the exchange value orientation of the critical thinking object could have been the reason for this secondary contradiction. Methodologically, it is impossible to establish this connection conclusively. In such cases, I attributed the consequence to all primary contradictions that were most likely to have caused it.

Primary contradiction in technological instruments.

The finding about the nature of the primary contradiction in Azad's technological instruments is similar to the earlier discussion of Azita's technological instruments. He also had high speed connection and did not report any disturbances due to poor Internet connection. Moodle as another technological mediating instrument did not cause any visible disturbances in Azad's activity systems either. He did not express any concerns about the quality of the articles in the pdf version that he chose to use to perform his actions related to

analysis paper. Accordingly, the consequences for this primary contradiction are marked as non-existing in Table 13.

Table 13

Primary Contradictions in Azad's Activity Systems

Contradictions	Consequences in activity systems	
	Engagement in criticism	Critical thinking
Use vs. exchange value in object	Secondary contradiction between his object of criticism and instructor's content-related expectations (community)	**Use value orientation** Secondary contradiction between his object of critical thinking and 1) insufficient EFL (instrument), 2) instructor's content-related expectations (community), and 3) classmates (community) **Exchange value orientation** Secondary contradiction between his object of critical thinking and due dates (rule)
Use vs. exchange value in technological instruments	No observed consequences	No observed consequences
Use vs. exchange value	Classmates not present in this activity	**Use value orientation** Classmates not present in this

in classmates	activity
(community)	**Exchange value orientation**
	Transformation of Azad's object of
	getting a good grade; no visible
	secondary contradictions

Primary contradiction in classmates as community.

In Azad's case, his primary contradiction in the classmates as a community in his activity systems of criticism and critical thinking had an orientation towards the use value. He shared posts with his classmates where he clearly engaged in criticism and attempted to apply critical thinking skills (see the section below on secondary contradictions). Despite the fact that he was taking this course because he was forced, he found it useful to interact with his classmates. In the interviews, he stressed his disappointment at his classmates' lukewarm participation and felt somewhat offended that his posts were often left unnoticed "[our instructor] divided us into three groups, and we had to support and criticize the topic. I was among those who supported the article. I wrote a paragraph about that, and nobody answered me" (interview, August 12, 2008). In this sense, this contradiction created a consequence in the form of a secondary contradiction between his classmates' poor participation (community) and his objects of criticism and critical thinking.

Secondary Contradictions in Azad's Activity Systems

As with the case of Azita, most contradictions occurred at the secondary level. Many of them were caused by the primary contradictions discussed above, some by other secondary contradictions, and yet others by quaternary contradictions.

Insufficient EFL versus Azad's objects.

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There is evidence to indicate that Azad was challenged by the complexity of the language in this course despite his strong command of English. This contradiction was manifested through the instructor-initiated disturbances in the feedback on draft analysis papers. There were a total of 37 such instructor-initiated disturbances in Azad's papers. Some of this feedback was caused by the instructor's confusion over the meaning of Azad's sentences. Most of these disturbances, however, were repeated errors, such as 3rd person singular in the simple present or use of articles.

In addition to instructor-initiated disturbances, Azad corrected his own errors in the process of content revisions based on the instructor's feedback. Methodologically, this task was alleviated by Azad's habit of turning on the Track changes function as he was working on his revisions.

Another source of evidence for Azad's disturbances was his own acknowledgement of the difficulty of the texts although he did not struggle with them much. He claimed to have used the article-specific glossaries only 3-4 times per article, and this occurred only with a few articles. He never used a dictionary, but he did guess from context often, and he had to "read carefully" (interview, July 26, 2008).

Azad addressed all these EFL-related disturbances very well. In this sense, he only had positive consequences for his grade. His grades never suffered because of the missing revisions of language errors. It is hard to say whether this contradiction had any consequences in for the use-orientation of the critical thinking object and the object of criticizing. Table 14 shows the summary of consequences of this secondary contradiction. I chose to put the EFL-related actions, such as careful reading, use of glossaries, and guessing from context as oriented towards the object of getting a good grade because the other objects have nothing to do EFL-related actions. On the other hand, these actions may have been isolated and not oriented towards any object, yet they forced Azad to become more engaged with EFL. In fact, despite the fact that Azad himself denied much English

learning in this course due to missing language specific tasks, elsewhere he would repeatedly mentioned that his language became more complex. He also recognized that he became more "conscious" of his own errors with the 3rd person singular simple present tense and with articles (interview, August 12, 2008).

Instructor's content-related expectations versus Azad's objects.

Because Azita and Azad had the same instructor, much of the feedback they had to deal with was similar. There were 38 such instructor-initiated disturbances in Azad's papers, a strong evidence of this secondary contradiction. In fact, in Paper 2, Azad brainstormed and outlined his ideas before writing his draft, which may be tentatively interpreted as an innovation to overcome this secondary contradiction. Azad's biggest challenge in this contradiction was to provide a coherent argument based on reasoning and not emotions.

The consequences of this contradiction were evident. It forced Azad to change his thinking, which in my interpretation gave rise to Azad's activity of critical thinking and then contributed to its transformation. This is a major consequence found among all participants in this study. The feedback in Azad's analysis papers reveals many clashes of philosophical stances between Azad and his instructor. These clashes challenged Azad's reliance on "emotional thinking" as he himself admitted (interview, August 12, 2008). At the end of the semester, Azad jokingly recognized that this course equipped him with the skills that would help him "bother people" more systematically (interview, August 12, 2008).

This contradiction also changed his writing style by forcing him to write more complex sentences (interview, August 12, 2008):

In terms of paragraphs, I said I should write long paragraphs instead of short sentences. Here I think I have done some progress. But it's not because of the course. It's because I have to explain myself, and I have to write complicated sentences to explain it.

These EFL-related actions, however, do not belong to any of the identified activity systems of Azad. They may have been isolated actions or else oriented towards another activity that did not manifest itself given the limitations of methodology.

In addition to positive consequences, there are some surface negative consequences that can be interpreted as having affected the exchange value orientation of Azad's critical thinking object. Of the eight analysis papers, four received lower than 100% grades due to faulty logic or lack of revisions in content. The reason for calling them surface consequences is because there is no evidence as to how these resulting grades affected Azad's activities and efforts in the course. Methodologically, it was hard to establish, but one can infer possible positive impacts, such as added effort to obtain better grades.

Due dates versus Azad's objects.

Because Azad worked full-time and happened to have traveled to Europe for about a month, an immediate consequence of these quaternary contradictions was the secondary contradiction between the rule and Azad's objects. This contradiction became visible through many instances of late submissions. None of his drafts were submitted on time. Four of his final papers were turned in on average 11 days late, which according to the syllabus could have effectively cancelled his efforts to zero points. Thanks to the instructor's more lenient approach to late submissions, he only lost one point on one of his papers.

The consequences of this contradiction produced an interesting consequence. Half-way through the semester, Azad decided to put less effort on his drafts so he could save time and instead invest it during his revisions based on the instructor's feedback. He also said that this approach reduced the amount of feedback from the instructor, hence less revision required for the final paper. His response about the reason for this new strategy clearly indicates the orientation towards his object of getting a good grade, "saving time and getting your mark" (interview, August 12, 2008). I interpret the introduction of this strategy as a modification of the instrument element in Azad's activity of getting a good grade.

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Classmates versus Azad's objects.

Azad's case is similar to Azita's in that he too placed some use value in his classmates when engaging in the activity of critical thinking, and that led him to disappointment due to lack of responsiveness and interest from his classmate community. In Problem Solution Forum 2, one of his classmates posted a problem about an adult friend of hers who spent too much of his money of DVDs and then used the home computer to watch them instead of letting his brother do his homework. The instructor posted her reaction to this problem, and Azad responded this way (Problem Solution 2, June 10, 2008):

I could not resist to interfere in this discussion. Here in Iran our culture is totally different form European country. ... I think that the question here is what is the best to do for the son no matter what the norm of society is? This question leads us to the assumption that our community norm is not well put and we need to change that.

I interpret this post as an indication of Azad's engagement in the activity of critical thinking. His first sentence implies that he could not help participating in this discussion because of the topic. Further, in his discussion he clearly employs conceptual tools of critical thinking fostered by the course: *assumptions* and *perspectives* of the society.

Other evidence of his genuine interest in forums comes from his reaction to forum discussions in our interviews. For example, at one point, he expressed concern for the lack of student participations in the forums, "these forums should be active in this course. Nobody answered me. Instructor answered sometimes. We should somehow encourage the students to participate in the forum," (interview, August 22, 2008). Later in the same interview, he brought up this issue in relation to a specific forum assignment, "I mean there are different topics from other students, and I answered them. But I also created my own topics, and nobody answered me," (interview, August 22, 2008).

This leads me to interpret Azad's need to communicate with his classmates and the latter's disinterest as a contradiction between Azad's object of critical thinking and his

community. I can only tentatively interpret the consequence of this contradiction as a reduced transformation of the critical thinking object.

There is also some evidence some Azad's object of criticism suffered from his contradiction. In Problem Solution forum 2, where he so genuinely discussed his classmates' problem, he also posted his own problem that he called "BIHE administration system or BIHE without a system" (Problem Solution Forum 2, July 4, 2008). This assignment was conducive to Azad's engagement in his criticism activity, so he took his chance. The language is indicative of his full engagement in his favorite activity (Problem Solution Forum 2, July 4, 2008):

Students as the main concern of the whole university does not have a voice in the university and they can not share their problems anywhere and be sure that somebody will consider their problems ... administration part is like a chaos ... In some cases you will find instructors with no experience at all.

For whatever reason, his problem was not discussed by his classmates. This example may serve as a small piece of evidence indicating a possible negative consequence on Azad's object of criticism.

Instructor versus Azad's subjects.

This secondary contradiction is quite unique to the study. It emerged due to the personality mismatches between Azad and his instructor and was perhaps caused by their similarity as was discussed earlier. They both tended to be explicit and harsh about their opinions. Another reason for this contradiction is the instructor's misinterpretation of Azad's intentions in this course (interview, August 22, 2008):

You know, we've all had students like that … they want to schmooze you. They don't want to do their work. They think they are smarter than anybody, especially you, and that's the impression I have of him, and I still have that impression. I think he's very brilliant, and he's capable of doing his work. ... But he ...was just kind of flashy. ... He

was using a lot of logical fallacies, and he wasn't giving evidence for his opinion. He had some interesting opinions, but he wasn't able, or he wasn't willing to do the work to support this opinion.

Having interacted with Azad more closely, I have constructed a different identity of Azad. In my interpretation, much of this perceived flashiness comes from his perhaps life-long activity of engagement in criticism. This flashiness is unlikely to be part of his activity of getting a good grade because his criticism was present everywhere including our conversations. Besides, the circumstances that forced him to take classes must have created resentment that his instructor happened to have experienced through his analysis papers and forum interactions. I believe by the end of our interview, Azad's instructor changed her perception of him.

Azad felt this secondary contradiction too although perhaps not as strongly. While he expressed deep respect for this instructor's expertise, he also noted that her way of thinking differed from his (interview, July 26, 2008):

[Researcher] You're saying that ... when you start expressing your real feelings that jeopardizes your grade?

[Azad] Yes, that's what I mean because usually if I give her what she wants, I get the grade.

Surprisingly, this contradiction between Azad's subject and his instructor did not yield any visible consequences. The disturbances in papers and forums that became visible through the interaction between Azad and his instructor could equally belong to two different contradictions: 1) between instructor as community and Azad as subjects and 2) between the instructor's content-related expectations (community) and Azad's objects. According to my interpretation, this personality contradiction remained concealed due to the instructor's ethics to separate her opinion of the students' personality from critical thinking, "There were points where I disagreed with him philosophically. I gave him 6/6" (interview,

August 22, 2008). There were at least two such papers where their opinions clashed:

Papers 2 and 7 and the grade did not suffer because of the personality differences.

Instructor vs. Azad's objects.

This is another unique contradiction in the study that emerged as a consequence of

two other secondary contradictions within the shell of the course. Throughout the semester,

Azad sent his instructor three requests for conference calls. Because conference calls are

not mandatory for the instructors, they could opt out of this obligation. According to her, she

saw the first two requests from Azad but had an apprehension, "I'm just imagining a

morning when I'm completely frustrated trying to call with time difference and the language.

And it's just me and computer technology trying different things" (interview, August 22,

2008). She admitted that in this course, she had her first Skype experience and not a

successful one due to technical challenges during the instructor training Skype conference

prior to the beginning of the course. Theoretically, this challenge is a secondary

contradiction between the instructor as a community member and Skype as a mediating

instrument. Another reason for the hesitation to set up a conference call, according to the

instructor, was her misperception of Azad personality discussed above.

These two secondary contradictions had a consequence in the form of a new

secondary contradiction between Azad's objects and his instructor as a community

member. I interpret this contradiction as such due to the agency of the instructor as a

community member. It was up to her to offer conference calls or not, and she could if had

she overcome the strong contradictions with the mediating instrument and Azad's

personality.

This contradiction had one obvious consequence in the form of a reduced grade, which

was opposite to the desired outcome in Azad's activity system of getting a good grade. On

the other hand, this consequence might have resulted in more expressed attempts to work

on his papers, more active participation in the optional pre-writing activities, which are all

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tentative regulative behaviors in Azad's activity oriented towards the exchange value of the critical thinking object. Otherwise, it is hard to infer any reasonable consequences in the other activity systems.

Table 14

Secondary Contradictions in Azad's Activity Systems

	Consequences in activity systems	
Contradictions	Engagement in criticism	Critical thinking
Insufficient EFL (instrument) vs. object	No evidence	**Use- and exchange value orientation** - More careful reading of articles - Occasional reference to glossed words - Frequent guessing from context - Possibly more engagement with readings, hence enhanced understanding of content **Exchange value orientation** - Better grades
Instructor's content-related expectations (community) vs. object	No evidence	**Use value orientation** - contribution to the emergence and transformation of the object of critical thinking **Exchange value orientation** Lower grades when comments not addressed properly
Due dates (rules) vs. object	No evidence	**Use value orientation** No evidence

		Exchange value orientation
		- new meditating instrument: putting less time on drafts to save time and to reduce amount of feedback
		- lower grade for one paper
		- Or no consequence
Classmates (community) vs. object	Possibly reduced transformation of criticism object	**Use value orientation** Possibly reduced transformation of critical thinking object
		Exchange value orientation
		- No evidence of contradiction
Instructor (community) vs. Azad (subject)	No evidence	No evidence
Instructor (community) vs. object	No evidence	**Use value orientation** No evidence
		Exchange value orientation
		- Lower grades
		- Possibly more effort in analysis papers and pre-writing activities

Quaternary Contradictions in Azad's Activity Systems

BIHE administration versus Azad's course activities.

To recall the earlier discussion of Azad's object of getting a good grade, his motive to be an undergraduate student while being a 36-year-old professional established in his field was to get officially certified to serve BIHE. According to Azad, before he even became a

BIHE student, he was engaged in the activity of serving BIHE. This external activity, or rather a contradiction within it forced him to take the courses he did not want to take. This interaction of Azad's outside activity of service emerged as a consequence in the form of an object of getting a good grade. He explicitly and repeatedly mentioned this motive of his in the last interview and in the background survey "That's why I said that I'm taking this EFL 104 only to get credit, only to pass the course and get my credit," (interview, August, 12, 2008). There is no evidence on what kinds of consequences this quaternary contradiction had on the other activities in Azad's course.

Azad's work activity versus course activities.

This quaternary contradiction was identified through the interviews with Azad. As was mentioned in his profile, he worked full-time from 8 am until 4 pm, after which he had to do other duties until 8 pm. His typical study time was between 11pm and 1 am or during breaks at work. Enrollment in seven courses at a time created secondary contradictions between the due dates (rules) and some objects in his activity systems. We were not able to discuss explicitly which activity systems specifically developed this secondary contradiction, but I would prefer to include all of them because tight due dates naturally affect a person's ability to spend quality time on thinking about critical thinking, getting a good grade for assignments, and even engaging in criticism within the course boundaries.

Azad's leisure activity versus course activities.

In the middle of the semester, Azad traveled for leisure to Europe. His trip lasted about a month, and this outside activity affected his course activities by creating secondary contradictions. One such evident consequence is the secondary contradictions between the due dates (rules) and Azad's object of getting a good grade. His instructor repeatedly expressed concern for his late submission in her comments in the analysis papers. His Paper 7 received 5/6 instead of 6/6 points because of the late submission, according to his instructor. This contradiction also had a consequence of reducing the transformation of the

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activity of critical thinking. In his last interview, he admitted that because he was running late with so many papers, he had to spend less time on each paper. In fact, he submitted his three last draft Papers 6, 7, and 8 on the same day, and his final Papers 6, 7, and 8 arrived on the same day too 5 days later. There is no evidence how his contradiction affected Azad's activity system of criticism.

Table 15

Quaternary Contradictions in Azad's Activity Systems

	Consequences in activity systems	
Contradictions	Engagement in criticism	Critical thinking
BIHE administration vs. Azad's course activities	No evidence	Emergence of the object, particularly its exchange value orientation
Azad's work activity vs. his course activities	Created a secondary contradiction between due dates (rule) and object	Created a secondary contradiction between due dates (rule) and object
Azad's leisure activity vs. his course activities	No evidence	Secondary contradiction between due dates (rules) and Azad's object leading to reduced transformation of the object

Summary of Azad's contradictions and consequences.

Figure 18 summarizes Azad's contradictions. What is worth noting in Azad's case is the interaction of his central activity systems. For example, the object of engagement in

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criticism clashed often with the instructor's feedback thus creating the disturbances and causing Azad to think and write differently, which according to him aroused his interest.

Azad's primary contradiction of critical thinking had a use- and exchange value nature. The same was true of the primary contradictions in technological instruments, and 3) in the community of classmates across all activity systems. In his primary contradiction of critical thinking he was drawn towards both use and exchange value. He was also drawn towards the use value in his classmate community. The primary contradiction in the technological instruments was driven by the use and exchange value.

An unusual finding emerged in Azad's activity of engaging in criticism. As an object, it did not seem to have the primary contradiction of use and exchange value. The data available did not provide insights as to the nature of this primary contradiction.
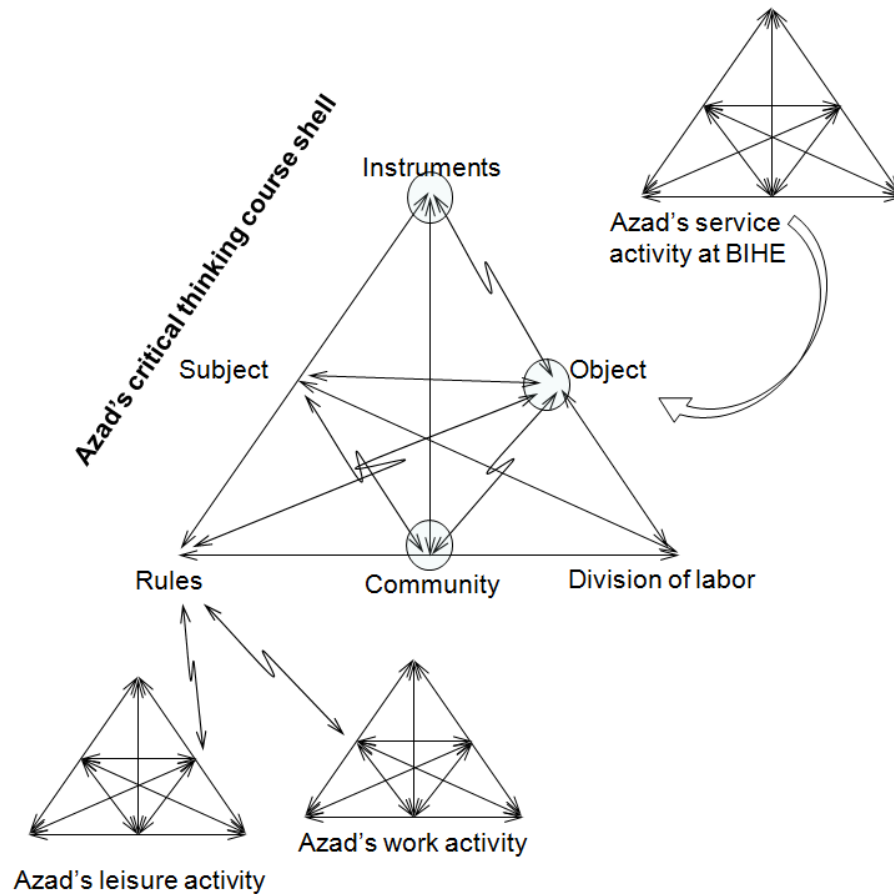
Figure18. Contradictions in Azad's critical thinking shell.

These primary contradictions had their consequences in the secondary contradictions. The primary contradictions in the object of critical thinking gave rise to the secondary contradictions between this object and 1) insufficient EFL (instrument), 2) instructor's content-related expectations (community), 3) due dates (rule), and 4) classmates (community).

There were no observed consequences as a result of the primary contradiction in the technological instruments. Azad effectively avoided potential secondary contradictions by purchasing high speed Internet. The other low exchange value materials such as Moodle and CD materials did not create any contradictions either.

Similar to the finding in Azita's case, classmates were mostly present in Azad's exchange value orientation in his critical thinking activity. In this sense, the primary contradiction of the object resulted in further successful transformation of the object towards the outcome of getting a good grade. There were no visible secondary contradictions that this primary contradiction created.

The secondary contradictions resulted in a few consistent regulative behaviors introduced by Azad: a) more careful reading of the articles b) occasional references to some glossed words, c) frequent guessing of words from the context, and d) putting less time on drafts.

Some secondary contradictions resulted in a positive outcome, such as higher grade due to the resolution of contradictions with the instructor's feedback. Other secondary contradictions led to negative outcomes, such as lower grade due to tight due dates. It is also possible to make a tentative suggestion that some of Azad's objects became more actively transformed (critical thinking) due to instructor's feedback or conversely reduced their transformation (critical thinking or criticism) due to low participation of classmates.

One secondary contradiction (instructor versus Azad's grade object) emerged a consequence of two other secondary contradictions in Azad's activity system of critical thinking: 1) between Azad and his instructor's misperception of him and 2) between Azad's instructor and the mediating instrument of Skype. One secondary contradiction (between Azad's personality and his instructor), while it clearly existed, did not produce any visible contradictions or disturbances.

There were no tertiary contradictions that affected Azad's activity systems, but there were three quaternary contradictions. One of them was between Azad's service at BIHE and his activities in the course. This contradiction resulted in the new object of getting a good grade in the critical thinking course. The other two quaternary contradictions were

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between Azad's objects in the course and 1) his work and 2) leisure activities. These two

contradictions resulted in the secondary contradiction that engaged the due dates.

Noushin

Noushin's Profile

In describing Noushin, 20, her instructor made a statement that I think captures her

personality well, "I think she's a very abstract person. I think that's what she is, abstract like

an artistic person. She discusses it, and then she goes off track a little bit," (personal

communication, August 17, 2008). For this reason, her profile is perhaps the most

challenging to construct given the data obtained in the study. She came across as a

genuine person striving for human relationship. Whatever she did had to make sense to

her, but this sense-making was not always straightforward and interpretable using the

methodology available in this study.

Noushin's major is psychology. She was in her fourth semester during Summer 2008.

Psychology clearly emerged in the data as her calling. In her background survey and in the

Getting to Know You Forum, she described her professional choice in the following way

(personal communication, April 22, 2008):

I like my major so much, and honestly I see it's improving necessity in Iran, because of

the weak economic of Iran and the bad social situation, more than 60% of Iranian

youth are depressed. It makes me sad, I want to help people and make them happy so

I choose the psychology major. There is a term in English which says" seize the day", I

like it so much and trying to use it.

Her speech was always laid-back and relaxed, and I believe, so were her movements.

Noushin thrived on interaction with people, which made a big difference in how her activity

systems became constructed. She always took the initiative to establish relationships. Her

instructor was one of the people Noushin tried to connect with, "She's a really interpersonal

person, she tried to make connection to me frequently related or unrelated to the course,"
and this relationship blossomed thanks to the openness of the instructor (personal
communication, August 17, 2008).

Another salient aspect of Noushin's identity was the Bahá'í Faith. In this respect, she is
unique among the other participations in the study. While the other participants identified
themselves as Bahá'ís, Noushin's Bahá'í identify came across very explicitly and yet
sometimes unintentionally, according to my observations. For example, she recognized the
challenges in BIHE administration, but unlike many others, she remained detached and
understanding, which to me is an effort to maintain unity – the center piece in the Bahá'í
tenants (personal communication, August 11, 2008):

> BIHE administrator are trying to do their best. That's the situation, and I should make
> my situation similar... how can I explain? I mean there are situation, some rules, some
> problems, and ... administrator cannot change something. Something are not at their
> hands. For example there are many problems that the government creates.

Such statements that demonstrate her faithfulness to the tenants of the Bahá'í Faith
were often present in her papers, email messages, or interviews. This aspect of her
personality also affected the way her central activity systems were shaped.

During Summer 2008, Noushin was taking five courses from BIHE. All the courses
were in Farsi and related to her major. Her English proficiency was lower compared to the
other student participants. According to my interpretation, English had a pragmatic purpose
for her. She was interested in it as a mediating instrument for her interactions. As such, she
did not like to be focusing on accuracy (personal communication, May 26, 2008):

> I like the part in EFL 104 that the grammar is not important because all the time I have
> grammatical mistakes, and it is really hard for me to think all the time about grammar
> and think okay is this sentence correct or not. ... For example, when the student wants
> to write about his or her ideas it is really hard to think about the grammar and the

setting of words, and things like that, and at the same time think about the subject.

On the other hand, she worked diligently to follow up on the feedback from her instructor. This is one of the pieces of evidence for the way her activity systems were constructed.

Noushin's Activity Systems

The profile of Noushin above is but a brief introduction of her personality, which is continued in this section. Due to the complexity of her personality, Noushin's activity systems were hard to identify distinctly. According to my interpretation, Noushin was engaged in three activities in the shell of the critical thinking course: 1) engaging in intellectual self-improvement, 2) being a Bahá'í, and 3) socializing (Figure 19).

Many of the mediating instruments that Noushin employed to transform her objects belonged to the course shell. One of them was EFL because it was the primary medium of interactions within the course shell. Other instruments included the course assignments, materials, guides, and dictionaries that were part and parcel of the course and were shared with the other study participants. The technological instruments were for the most part the same except for a few differences. Noushin preferred to use the html version of the articles that provided immediate access to the glossed words through hyperlinks. She also used Yahoo! Messenger and Yahoo! Mail to interact with her instructor and her classmates. According to Noushin, she had a high speed Internet connection, but this did not save her from some contradictions due to the Internet quality.

The division of labor included roles, some which were similar across all four activity systems, whereas others differed. There was a role of the instructor to provide feedback or react to Noushin's actions, depending on which object her actions were directed to. The classmates' role was to interact with Noushin, and finally Noushin's role was to produce

assignments, exchange messages, or project a Bahá'í identity, depending on the activity system. Figure 19 summarizes the division of labor in the three activity systems.

The rules were partly defined by the course syllabus, referred to as the Universal Course Structure. The syllabus stipulated the order of assignments to be submitted, the due dates, and weighting of the assignments towards the final course grade. The due date for the final papers, however, was adjusted by the instructor. She chose not to drop points if students submitted their papers late. The rules were also defined by the grading rubrics for the problem-solution forums (Appendix D), analysis papers (Appendix C), optional pre-writing activities (Appendix I), and optional conference calls (Appendix J). Another rule in Noushin's shell was the Guide for Analysis Papers (Appendix B). The activities of socializing and being a Bahá'í were less regimented and included one social rule of politeness when, for example, Noushin or her instructor responded to each other's or IM messages.
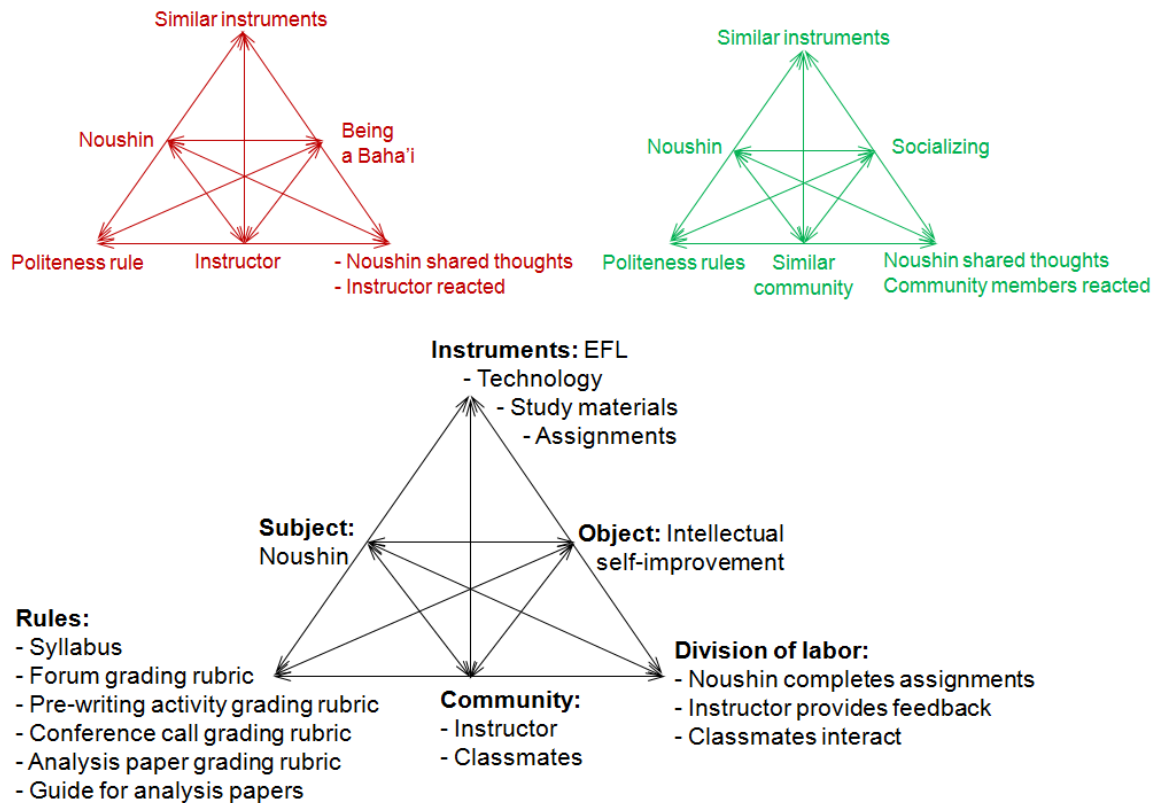
Figure 19. Noushin's central activity systems in the course shell.

Noushin's community consisted of her instructor and classmates. Possibly due to Noushin's nature to seek relationships with people, her classmates were included in all of her activities. She introduced her friends in the first interview and then mentioned them on other occasions (interview, May 26, 2008):

For example, when I have problem, I call one of the friend. Most of us ... have this course, and I call them and ask ..., "Okay, please help me. I cannot realize the meaning of second paragraph." ... I send them my assignments and say, "Okay, is it fine in your idea or not?"

However, two members of her community played a major role: her instructor and Shirin, her female friend from the same group.

Shirin had a shared interest in many of Noushin's objects. Noushin mentioned her friend's name in all interviews. In the forum discussions, Noushin interacted most actively

with Shirin. They also talked to each other outside of the Moodle environment through telephone and instant messaging. In fact, at the beginning of the semester, Noushin visited her friend in her city that is more than 400 miles away from Tehran. According to Noushin, they did the first assignments together. Her instructor was aware of their friendship (personal communication, August 17, 2008):

She worked with Shirin, and I tried to compare her work with Noushin's work, and I noticed that when Shirin was tangible, so was Noushin. But when Shirin went abstract, Noushin went abstract too. They didn't write the same papers. I tried to see if they did, and their thoughts were different, but their style was very similar.

That fact that Noushin had a close friend like Shirin in her group makes her case unique. Because they collaborated on their assignments, Noushin's contradictions and consequences had more favorable dynamics in most of her activity systems.

Finally, Noushin's instructor was by far the most influential mediator in Noushin's activity systems. I attribute this influence to the instructor's ability to connect to Noushin as her student and to her openness and accessibility. Noushin's instructor had a Christian background. She received her Ph.D. in Applied Linguistics from a U.S. university, and was in the process of being hired at a university in Europe, where she resided. She is a native speaker of English and a European language of her parents. She had extensive experience teaching ESL and EFL. She also taught a number of graduate and undergraduate courses in applied linguistics both face-to-face and online. Of all instructors in the course, she was the most experienced in distance teaching. As a coordinator of the course, I was impressed with her efficiency and ability to reach out her students in the distance environment.

Critical thinking as a subject matter of a course was new to Noushin's instructor. She could easily relate to it having obtained a doctoral degree, but she preferred to rely on the framework of the course when she provided content-related feedback. This distinguishes her from Azita and Azad's instructor, who tended to follow her own professional sense of

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teaching critical thinking. Most of the content-related feedback that Noushin received was based on the Guide for Analysis Papers (Appendix B) and the grading rubric for analysis papers (Appendix C). In terms of language, she provided extensive feedback in the form of short explanations using the comments function in Microsoft Word, and a number of corrections using the track changes function, such as deletions, additions, or replacements of words, letters, and punctuations. Given Noushin's level of English proficiency, there were a total of 281 such language-related comments in the eight analysis papers. Some of them targeted grammar and vocabulary errors. Others were related to mechanical errors, such as punctuation, spacing, and capitalization. Noushin was the only student participant who received such profuse amount of language-related feedback. According to her instructor, she was aware of the controversy regarding the amount of feedback. However, she made a conscious decision to pursue this route in order to "gain trust" in her students (interview, August 17, 2008). From her experience, English language learners tend to perceive lack of language-related feedback as negligence on the part of the teacher. Thus, she was concerned that coupled with the missing face-to-face contact, her selectiveness in feedback could result in losing trust and confidence of her students.

Noushin reacted positively even defensively to my question about this kind of feedback (interview, June 29, 2008):

[Researcher] I also noticed that your instructor sometimes ... deletes certain words, and she adds new words. What do you think of this kind of approach?

[Noushin]: I *like* it!

[Researcher] Aha. Tell me why.

[Noushin] Because it is clear. I mean I exactly realize what should I do... It's really clear. I like it.

Whether due to the amount of feedback or their intensive interaction during the semester, Noushin was able to establish a very close relationship with her instructor. In her last analysis paper, she left the following comment for her (interview, August 4, 2008):

I want to appreciate every single moment which you spend to teach us, God bless you. I want you to know I am so thankful and promise you to be a good psychologist and try to help human kind as you did. I will pray for you as I did this semester.

Noushin's Activity of Engagement in Intellectual Self-improvement.

This activity benefited most from the course shell and its elements, which is why I start the discussion of Noushin's activity systems with this one. Unlike with many other participants in this study, Noushin had a general drive for self-improvement. She did mention how English and critical thinking were interesting and important to her, and in fact how they were her goals in this course. Her actions also demonstrate her genuine interest in both English and critical thinking. For example, she chose to read the Bible for Problem Solution 3 in English although she struggled with it. She also met a person who, according to her was a "professional in critical thinking" from whom she solicited help on one of the articles in the course (interview, June 29, 2008). She also made effort when writing her analysis paper and making forum posts. Unlike all other participants she initiated interaction with her instructor through instant messaging, email, and the Moodle messaging system.

Despite all this evidence, I tend to interpret Noushin's driving motive for all these actions more as a general need for intellectual self-improvement. She mentioned this idea several times in our interviews, "I like to change my mind. I like to learn," "I have to do this assignment to learn about critical thinking, and the main point of studying especially in university is learning," (interview, May 26, June 29, 2008). Noushin sincerely strived to learn anything that was offered to her, even if it did not make a perfect sense to her. For example, having written eight analysis papers, she still did not understand the elements of

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critical thinking. Through her instructor's extensive feedback in analysis papers, an hour

long conference call, and multiple instant message exchanges, she was able to follow the

expected pattern of analysis paper and address the purpose, implied questions,

perspectives, implications, and other elements of critical thinking of the articles. However,

this pattern lasted only for two-three papers. At the very end of the semester, she raised the

same concerns of misunderstanding the elements of critical thinking to her instructor, who

was rather puzzled by this request, "I also asked her to write explicitly the perspectives,

assumptions, etc. And she copied those in the IM message, and she didn't get the exact

meaning. And that was the beginning of August," (interview, August 17, 2008).

Thus, I interpret Noushin's effort to work on her assignments as a genuine need for

learning. She trusts her instructors whole-heartedly. In the interviews, she expressed her

gratitude to BIHE for providing education to young people like her, "I want to learn, and I

believe everything course in BIHE has some benefits: ... forum conversations, assignments.

Everything have benefits for me and help me to learn and access the knowledge,"

(interview, May 26, 2008). This attitude is radically different from many other students' who

tended to accuse BIHE of disorganization. This object for intellectual self-improvement goes

beyond the BIHE setting. She mentioned two books that she read because they had been

recommended to her. Both books were written by Bahá'í authors and were in English.

Unasked, she made insightful connections between the contents of the course and those

books.

Noushin's approach to English was also indicative of her need for general intellectual

self-improvement. While Noushin was not particularly interested in achieving perfect

competence, unlike Azita, she still performed actions that demonstrated her orientedness

towards improvement. She diligently corrected all 281 language-related errors that her

instructor marked, except for one that she may have missed due to inattentiveness. I

interpret these actions as motivated by her need to self-improve intellectually. Because she

trusted her instructor, she did whatever her instructor thought beneficial for her self-improvement.

To conclude, Noushin seems to be a rare example of a student whose actions are strongly directly towards the object of learning that I term as engaging in intellectual self-improvement. According to the data, this object proved strong and stable throughout the semester.

Noushin's Activity of Being a Bahá'í

As was mentioned in the Noushin's profile, she led a very active Bahá'í life. This dedication to the Bahá'í Faith was also evident in this course. Many of her thoughts in the analysis papers related to her beliefs. In the paper on evaluating evidence, she wrote the following (interview, July 16, 2008):

> We need to evaluate evidence to understand which information is trustworthy. I think I can see one of the clearest examples about this matter, there are lots of anti Bahá'í sites and weblogs, which all the information on them are lie and slanders about faith, Iran government blocked and filter all Bahá'í sites, so nobody from Iran couldn't access them without anti filters. It is on Iranians to judge that the information they find in anti Bahá'í sites is right or not, they should evaluate evidences and decide which information is reliable.

However, beyond this, Noushin came across as a Bahá'í in the personal interactions with her instructor. During the course, she sent her instructor four excerpts from the Bahá'í Writings on topics such as obedience to government or detachment from difficulties. She also sent her three links to websites that either explicitly discussed Bahá'í-related issues, such as persecutions of Bahá'í in Iran or highlighted the ideals of the Bahá'í Faith, such as unity of religions and equality of men and women. Her instructor appreciated these messages and shared her quotes that also emphasized human values.

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One particular event in the course specifically demonstrated Noushin's strong

allegiance to the Bahá'í Faith. In the last Problem Solution Forum, the students worked in

two groups: one defending the article against the Bahá'í Faith written by Martin Walter

(1965) and the other opposing it. Noushin was in the first group. Without going into much

detail because this event will be discussed further in the section on secondary

contradictions, this is what she posted in the forum, "This article was full of mistakes, even

in first line; the author mentioned the Bahá'í faith as a cult, as we know it is not correct,"

(Problem Solution Forum 3, July 28, 2008).

Noushin overcame this shock after a number of exchanges in the forum. Her instructor

and I made emphasis on the fact that by learning how to defend Martin Walter, she would

learn much about defending the Bahá'í Faith against such attacks. Ever since, she took this

assignment to heart. Her instructor was impressed with her attitude to this assignment,

"While others refuted the chapter ... by responding with the items from the article, ... she

didn't do that. She did that with quotes from the Bible. So her Faith comes in here again,"

(interview, August 17, 2008). Noushin, in fact, started learning about Christianity, and she

did that by studying the Bible in English. In one of the last posts, she said the following,

"Today is the last day of this forum, dear Shirin I want to thank you for being a part of

discussion. As a Bahá'í believer I enjoyed this forum, because it makes me to understand

different aspects of Christianity," (personal communication, August 8, 2008). Later, she also

shared a psalm from the Bible that she found "most comforting" (Problem Solution Forum 3,

August 13, 2008).

Besides her use value orientation in the object of intellectual self-improvement,

Noushin was also drawn to its exchange value. Most of the time, Noushin expressed lack of

interest in the grades. This motivation seemed inappropriate to her. Whenever I asked her

about the grades she had received for the courses in the previous semester or on the

course assignments in this course, she claimed not to remember them. She also claimed to follow the grading rubrics closely.

Despite the fact that she denied the importance of grades on several occasions, some of her actions unequivocally indicate the existence this activity. It is interesting to note that unless there was a reason to worry about the grades, Noushin appeared oblivious to them. As soon as the quality of her assignments became questionable, her object of getting a grade would receive much attention and produce remedial actions. Such increased transformation of her grade object occurred twice during the semester: 1) at the beginning of the semester after she received three out of six points for her first analysis paper, and 2) at the end of the semester. One source of such evidence was her instructor. During their conference call, which unfortunately was not possible to transcribe due to poor quality, "She was the one who that brought up the percentage points. ... and I tried to calm her down and I told her that the articles are going to get better," (interview, August 17, 2008). At the end of the semester, she raised concern about her grades again through the interactions with her instructor, such as this one, "i want to complete all the EFL assignments as soon as possible, Please tell me is there any chance for me to receive an A for this course? if not is there any assignment which could raise my grade?" (email communication, July 29, 2008). That is when she discovered that her second analysis paper was not completed, and she panicked. When asked to comment on the change in her attitude towards the grade in our last interview, Noushin laughed and admitted, "Yes, because everyone at the end of the semesters thinks about their grade," (interview, August 12, 2008). Thus, this exchange value orientation exhibited an uneven dynamic throughout the course from being active to dormant and then active again.

Noushin's Activity of Socializing

In analyzing Noushin's participation in this course, it is easy to notice her outward orientation. She reached out to the people in the course by all means accessible to her: forums, instant messaging, email, telephone, and even means of transportation, when she had to travel to her friend who lived in another city. Some of her interactions were directed towards engagement in intellectual self-improvement or being a Bahá'í. However, beyond that Noushin was driven to interact because of her orientedness to socialize. She underlined the role of socializing several times in the interviews (interview, August 8, 2008):

I think human being are love to live in a society and connecting with people is interesting for human, so face to face university may help ... the connection. I'm just not talking a lot about other courses, the assignments. I'm talking about human relationships. For example, in a face to face university, I learn how to make friends, how to act, how to talk in front of [inaudible], and in online university, I'm alone. There's me and my computer. It's not a real world.

Some of her actions were also clearly directed towards the object of socializing. For example, she maintained connections with her previous EFL tutors. She emphasized the value of human connection when talking about other EFL courses she had taken, "one of the benefits of EFL courses for me and other students is that we have a really good feeling about it, because we realize that ... there's somebody who really care about us, and ... spend time," (interview, May 26, 2008). In the interviews, she also mentioned how she met people and involved them in her activities. When asked what she would do if she had no friends in the course, she said (interview, June 29, 2008):

I will try to ... connect with another person and make friends. I think I need another person to talk about assignment and even I couldn't find a friend from my classmates, I try to find some friends who are translate. I mean their job is translating. I ask them to help, at least.

Her instructor had a first-hand experience with Noushin's socializing activity (interview, August 17, 2008):

She was trying to connect to me, more so than anyone in the class. She is the one who keeps on communication ... we did have a conference call, and we struggled a lot. I had to repeat "Can you hear me now again and again," ... With the language barrier, ... I would have loved to speak her language and talk to her because I think that's how she learns.

Throughout the semester, Noushin connected with her instructor at least 20 times via Yahoo! Mail, Yahoo! Messenger, or through the Moodle message system. This activity of socializing exhibited a stable pattern according to my observations.

Summary of Noushin's Central Activity Systems

Figure 20 illustrates the historicity of the four activity systems that Noushin was engaged in most actively in the course shell. All of her activities remained stable throughout the semester except that the exchange value orientation exhibited some change.
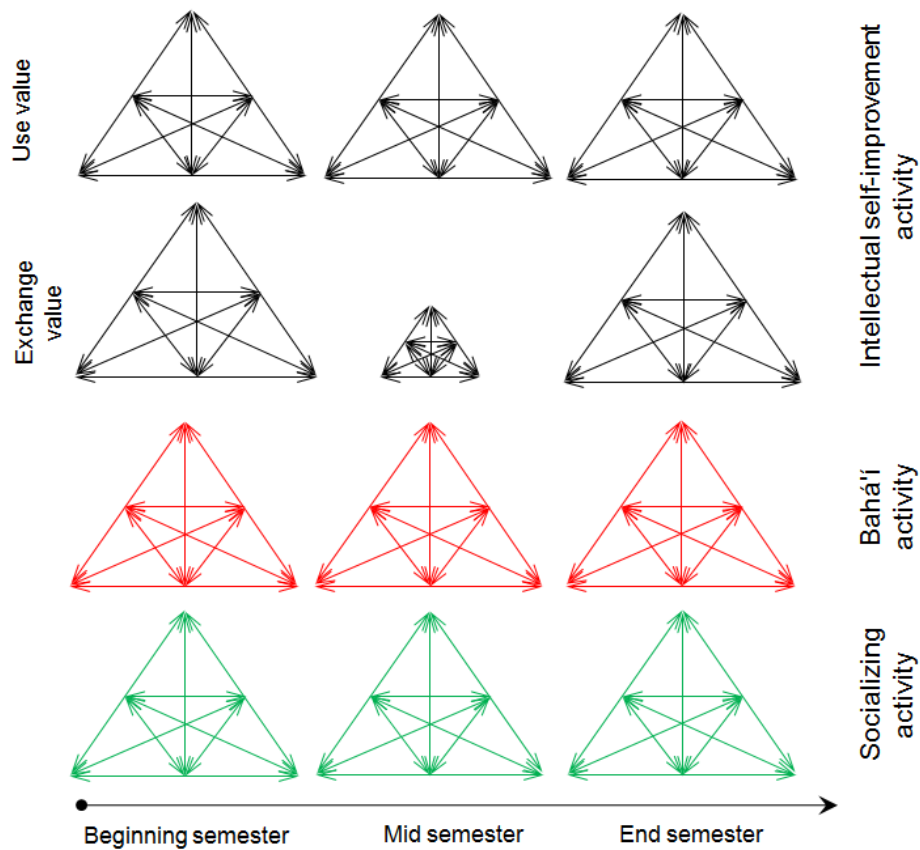
Figure20. Historicity of Noushin's activity systems in the course.

Noushin's Contradictions and Their Consequences

Primary Contradictions in Noushin's Activity Systems

As was the case with Azad's primary contradictions, some consequences in the form of secondary contradictions in Noushin activity systems seemed to overlap as well. This is due to the poly-motivation of actions. For this reason, in Noushin's case, I also attribute the same consequence in the form of secondary contradiction to all primary contradictions that were most likely to have caused it.

Primary contradiction in objects.

The primary contradiction in the object of intellectual self-improvement had the nature of use and exchange value, and Noushin seemed to be more oriented towards the use value of this object. From the examples demonstrated in the above section, Noushin was interested in learning for the sake of learning. Depending on the circumstances, she became more oriented towards the grade. This primary contradiction resulted in the secondary contradictions between her motive to self-improve and 1) insufficient EFL (instrument), 2) content-related expectations of her instructor (community), 3) misunderstanding the requirements of the Guide for Analysis Papers (rule), 4) due dates (rule), 5) poor internet quality, and 6) requirements in Problem Solution Forum 3.

The primary contradiction in the object of being a Bahá'í seems to have the use and exchange value nature as well. In the latter case, it would imply adherence to the Bahá'í tenants in order to feel secure, or using the theological terminology, in order to exchange this obedience for salvation. In the former case, a person could be attracted to the Bahá'í Faith, or any other religion, for pure motives, just as a child is attracted to his or her mother without expecting anything in reward. This contradiction had some consequences in the form of secondary contradictions between her motive to be a Bahá'í and 1) poor Internet connection (instrument) and 2) requirements of Problem Solution Forum 3 (rule).

The primary contradiction in the object of socialization is similar to Azad's object of criticism and Azita's object of maintaining a good self-image. Socialization as an object does not seem to have a clear exchange value, and as such there cannot be a use value either. However, it was a distinct object, i.e. motive according to the data, and according to my interpretations, she experienced a secondary contradiction between her motive to socialize and 1) the poor Internet connection and 2) the requirement of Problem Solution Forum 3 (rule).

Primary contradiction in technological instruments.

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Noushin participated in a conference call with her instructor unlike Azita and Azad. This required the use of Yahoo! Messenger and Internet connection. According to her instructor, the quality of the conference call was very poor presumably because of the Internet connection on Noushin's end. We experienced similar problems during the interviews. Internet as a commodity is based on the use and exchange value contradiction. Noushin must have made an effort to arrange for a more efficient *use* of Internet. However, apparently due to the poor service across Iran, paying more for Internet was not enough. Thus, while Internet as a commodity did have the primary contradiction of use and exchange value, it did not cause the secondary contradiction between poor Internet connection and Noushin's objects. It was the quaternary contradiction between Noushin's activities and that of the Internet provider.

Like the other participants, Noushin also used Moodle and CD materials as a technological instrument. Both of these instruments had a low exchange value because they were provided to her for free. These commodities were based on the primary contradiction of use and exchange value. Being an open source application, Moodle did not come with support services. This trade-off in exchange value caused a few disturbances in Noushin's activity when the team of instructors decided to merge groups of four-five students to larger groups of 10-12 students to increase student participation in the forums. This merging removed some of the previously made posts by the students. Noushin was among those students who expressed this concern to her instructor. However, because this disturbance did not occur, no consequences due to this primary contradiction emerged in any of the four activity systems.

Table 16

Primary Contradictions in Noushin's Activity Systems

	Consequences in activity systems		
Contradictions	Intellectual self-improvement	Being a Bahá'í	Socializing
Use vs. exchange value in object	**Use and exchange value orientation** Secondary contradiction between Noushin's object to self-improve and 1) insufficient EFL (instrument), 2) content-related expectations of her instructor (community), 3) misunderstanding the requirements of the Guide for analysis papers (rule), 4) due dates (rule), 5) poor internet quality, and 6) requirements in Problem Solution Forum 3.	Secondary contradiction between Noushin's object to be a Bahá'í and 1) poor internet quality, and 2) requirements in Problem Solution Forum 3.	Secondary contradiction between Noushin's object to socialize and 1) poor internet quality, and 2) requirements in Problem Solution Forum 3.
Use vs. exchange value in technological	No consequences identified	No consequences identified	No consequences identified

instruments

Use vs. exchange value in classmates (community)	**Use value orientation** - opportunity to solicit help - transformation of the object	**Use value orientation** - opportunity to talk about religions and human values - transformation of the object	**Use value orientation** - opportunity to socialize - transformation of the object

Primary contradiction in community.

In the activity of intellectual self-improvement, Noushin clearly was oriented towards the use value of her classmates and other members that shared her interests. Sometimes, she posted questions to the forums because she really wanted to know the answer. This is an example of her question in the pre-writing activity in Module 4, "Dear friends would you explain about this statement? What's the meaning of this theory? [Sir Thomas Ockham's theory]," (Pre-writing Activity 4, June 6, 2008). As we discussed earlier, she closely worked with many of her classmates, particularly Shirin, in order to facilitate the transformation of her objects. She also reached out her friends outside of the course to help her with translation or family members such as her uncle from the U. S. This attitude to classmates and other members of her outside communities is a good example of Engeström's (1987) discussion of a use-oriented community in school-going activities. The consequences of this use-orientation benefited Noushin in many ways. As she herself attested, she was able to solicit help from many of her friends and have many of her disturbances resolved.

Noushin's community in her activity of being a Bahá'í had a use value orientation too because it was marked by the spirit of team inquiry. This community was mostly represented by her instructor with whom she shared excerpts from Bahá'í Writings and links to the websites with Bahá'í-related content. Her instructor responded with mutual interest and shared her own excerpts that also highlighted human values. No visible consequences of this use-oriented contradiction were identified, if it was a contradiction in the first place.

In Noushin's activity of socializing, the primary contradiction in the community clearly had the use value orientation because their interaction was mutual. While it is hard to tease apart the same classmates as a community in three of Noushin's activity system, one can safely infer that this use-orientation was beneficial to the transformation of her object.

Secondary Contradictions in Noushin's Activity Systems

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Insufficient EFL versus Noushin's objects.

Because Noushin's English proficiency was not as high as most of the other participants', this contradiction was rather strong in most of her activity systems. First, this contradiction became manifested through Noushin's explicit indications of the difficulty of the articles. She tried to reproduce typical actions while working on the analysis papers. She would start by reading the article and taking notes on paper in English and in Farsi. She would look up new words hyperlinked in the article or in a dictionary. Sometimes she would re-read the whole article one more time. Most of the time, she would re-read the most challenging parts of the article three or four times. Because of Noushin's outward orientation, she tended to reach out people to seek help. She also had friends to work with. She posted some questions to the pre-writing forums, where her instructor and sometimes group-mates responded. She asked a friend whose job was translating to help translate parts of the articles. She also solicited help from a new acquaintance who was "really professional in critical thinking" (interview, June 29, 2008).

Another source of disturbances due to this secondary contradiction came from the instructor. There were a total of 169 grammar or vocabulary related errors, 60 mechanical errors, and seven organization related comments. As was mentioned above, Noushin conscientiously corrected all the errors, except for one that she must have overlooked. According to her, she would spend two to four hours on the revision process during which she would re-read parts of the article. Noushin highlighted two areas that according to her were indications of improvement in her English: vocabulary and organization. "When we're reading articles, we become familiar with new words. For example, never we ... read about questioning, or … I don't know another subject. It's all new word, new ways to use them," (interview, July 7, 2008). "I learned how to write article in a good way. I mean it has a logical process. I learn how to being with a ... point and how to end the article," (interview, June 29, 2008).

According to my interpretation, this contradiction caused these consequences in the activity system of intellectual self-improvement. Possibly, her regulative behaviors also transformed the object of being a Bahá'í because there is much emphasis in the Writings on achieving perfection in one's daily life. However, such claims would be too tentative to mention as findings.

Instructor's content-related expectations versus Noushin's objects.

Content-related expectations would be any comments related to the ideas in Noushin's paper except for those related to the elements of thinking outlined in the Guide for Analysis Papers (Appendix B): the author's purpose, questions, concepts, information, assumptions, perspectives, implications, and Noushin's reflections. Due to the instructor's approach to feedback, Noushin received only 16 content-related comments.

Another source of disturbances was the articles themselves. In this sense, it is impossible to distinguish between the contradictions due to insufficient EFL and content-related expectations of the instructor. The following is perhaps a typical comment from Noushin that would signal such a disturbance, "The fourth assignment was really really hard, and lots of theories, and lots of ideas, and it was really long. I think all of the students were really tired of this article," (interview, June 29, 2008).

Because the contradictions due to content and EFL are impossible to distinguish methodologically, the consequences of these contradictions would have to be combined as well. Table 17 shows a summary of these consequences.

Guide for Analysis Papers versus Azad's objects.

Similar to Azita's case, Noushin struggled with understanding the requirements of the analysis papers. This contradiction became manifested through her instructor's copious comments and exhortations and Noushin's responses to my interview questions. Her instructor made a total of 27 explicit directions in Noushin's drafts on which required elements to discuss and how to do it. In addition to this, she also provided similar directions

on five occasions through instant messaging and emails that were initiated by Noushin because she could not understand her instructor's comments in the drafts. This is a sampling of the instructor's comments with specific examples of how to word the discussion of required elements, "The main purpose of the article is…... Thus, the questions the author addresses are: ... One of the main implications or consequences of this article are ...," (Analysis Paper 2, May 23, 2008).

During the interviews, Noushin did not express specific concerns about the required elements in her analysis papers. Perhaps, they were not as critical to her the overall understanding of the articles (interview, July 7, 2008):

[Researcher] Did the understanding of those elements of thinking change from the beginning of the semester to now? ... I mean again, perspectives, assumptions, and concepts, questions, and purpose. Those elements of thinking?

[Noushin] Mmm. I don't know. I can't remember exactly. I can't remember any problems with them. I just remember we had the problem because we did not understand the meaning of sentences, so when we do not understand we cannot understand what perspectives and another things.

Thus, I conclude that this contradiction between the rule and objects of Noushin's activities existed solely due to the feedback from her instructor who in turn was mediated by the Guide for Analysis Papers. I attribute this contradiction to the activity system of engagement in intellectual self-improvement only, in particular, its exchange value orientation because Noushin did not exhibit much willingness to grasp these elements.

The consequences of this contradiction were manifested through Noushin's actions to clarify her instructor's directions and subsequent efforts to revise her papers, which most likely prompted some re-reading of the articles. Thus, this contradiction presumably led to more active transformation of the grade and self-improvement objects when Noushin addressed her instructor's comments successfully. Otherwise, the contradiction

occasionally resulted in lower grades when Noushin was not able to address the instructor's feedback effectively. Whether this contradiction caused any frustration and possible weakening of the objects is not clear from the data.

Due dates versus Articles as Instruments.

Noushin's drafts were on average 3.75 days and final papers 2 days late, excluding the final paper from Module 2 that Noushin forget about until the end of the semester. Interviews with Noushin suggest that she was disturbed by the due dates in this course (interview, July 7, 2008):

For example about Module 6, I didn't have any time to write it. So it is hard for me because I have to write it in a few hours, and I don't have much time... When I'm tired… it makes it hard. But when I have time, it is easy for me to spend my time on reading it.

During our discussion of an ideal online course, she said that due dates should matter only when students are 20 days late or more. Given this position of hers, I conclude that she felt frustrated having to meet the due dates in this course.

What is important to note in respect to Noushin is that this contradiction occurred between the rule (due dates) and instruments (articles) of Noushin's activity systems. This is different from what transpired in Azita and Azad's cases, where they did not link lack of time to the difficulty of the articles, although this could as well be a reasonable supposition. Unlike them, Noushin made a strong emphasis through statements such as above that her challenge was not simply time but the level of difficulty of the articles coupled with the time pressure.

It was impossible to identify consequences of this contradiction in the form of specific regulative behaviors based on the data available. However, two conclusions can be made with some degree of certainty. First, Noushin's instructor made it very clear that she never dropped points for late submissions because she chose to adjust the late submission policy

in the Universal Course Structure. In this sense, Noushin's object of getting a grade never experienced any consequences of this contradiction. Second, given the frustration that Noushin expressed about the due dates and the level of difficulty of the articles, one possible consequence could have been a weakened transformation of her object of intellectual self-improvement. It is impossible to make any interpretation on the consequences of this contradiction in the activity systems of being a Bahá'í, and socializing due to the methodological limitations.

Internet versus Noushin's Objects.

As was mentioned in the section on primary contradictions above, Noushin was disturbed by the poor Internet connection, and this was caused by the quaternary contradiction between Noushin's course activities and the activity of the Internet provider. Her instructor expressed concern that the internet connection during their first and last conference call was poor (interview, August 17, 2008):

I wanted to assist her, and we did have a conference call, and we struggled a lot. I had to repeat "Can you hear me now?" again and again. And that we couldn't talk. And with the language barrier in this case, I would have loved to speak her language and talk to her because I think that's how she learns.

In an interview, Noushin mentioned that after the first conference call, she sent instant messages to her instructor instead of requesting conference calls. There may have been other reasons why Noushin and her instructor chose not to have more conference calls. However, the one time disturbance with the first conference call implies that Internet was viewed as a potential contradiction that could impede the quality of their interaction. Had the connection been more seamless, Noushin would have benefited from a more engaged and in-depth discussion of the contents of the course, Bahá'í Faith, or Christianity, which in turn could have resulted in better grades for Noushin. As such, I interpret that this disturbance

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as an emerged secondary contradiction that had negative consequences on the transformation of all four objects in this course.

Problem Solution Forum 3 versus Noushin's objects.

In Problem Solution Forum 3, students were divided into two groups. The first one was expected to defend the position of the author Martin Walter (1965) who wrote an article where he argues that the Bahá'í Faith is a cult. The second group was expected to oppose the author of the article. The purpose of the assignment was for the students to apply their understanding of course readings on the evaluation of evidence and identification of logical fallacies. This set up of the assignment represented the rule in Noushin's activity systems of intellectual self-improvement and getting a good grade.

Noushin adamantly opposed to this rule, which we can see in one of her forum posts addressed to the instructor (Problem Solution Forum 3, July 28, 2008):

I am totally confused after reading the source of this forum. Will you help me? This article was full of mistakes, even in first line; the author mentioned the Bahá'í faith as a cult, as we know it is not correct. In the interview we can see two big mistakes in the answers of that person. Now please tell me how I should defend this article? There is a definition for historical research, and this article is not follow that... Now after reading all of lessons in this course I say it is against critical thinking to defend something that you know it is not true! Tell me am I right? What should I do? May be I do not understand the meaning of the topic of forum. Please guide me.

This post clearly expresses her contradiction between the forum requirements and her understanding of critical thinking and historical research, which I interpret as belonging to Noushin's object of intellectual self-improvement.

There is also some evidence of how this rule may have affected her orientation towards the exchange value of the object of intellectual self-improvement. The next after

the post above, Noushin sent this message to her instructor (email communication, July 29, 2008):

I am ready to write a post for forum! if it is not a problem, I can do it, and it is good because the discussion will begin soon! ...I think the group who are not agreeing with the writer should begin discussion, what's your idea? [smiley] I can write a post about the definition of cult today, but I think it should be from the other group

i want to complete all the EFL assignments as soon as possible, Please tell me is there any chance for me to receive an A for this course? if not is there any assignment which could raise my grade?

While Noushin was on the subject of Problem Solution Forum 3, she brought up a subject of grades. This link is not obvious, but it could be interpreted as Noushin's concern for her grade, and Problem Solution Forum 3 was one of the last assignments that she could use to rectify some of the points lost throughout the course.

The data do not suggest any connection between this rule and the other objects in the activities of being a Bahá'í or socializing. The object of being a Bahá'í is in the fact the one that prompted this secondary contradiction. As such, this contradiction was caused by a quaternary contradiction which will be discussed in the subsequent section.

The consequences of this secondary contradiction were somewhat unexpected. Despite the initial strong resistance, Noushin suddenly diametrically changed her attitude towards the forum assignment, which is reflected in the following forum post from her (Problem Solution Forum 3, July 30, 2008):

In order to do this assignment first we should become familiar with Christianity teachings, as you know we live in a Muslim country so we know lots of things about Islam. I think it will be helpful if you explain about similarities between Islam and Christianity. In order to support the author I need to know Christian beliefs. ... I am trying to learn to see the world how he saw! ... I should say it seems I can see the

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interesting part of assignment now! I read bible in Farsi some years ago but reading it in English seems more interesting! I found some websites, which include bible verses, but I am not sure that all of them are one translation. In order to support the author I think it will be good if I found some verses in bible.

Her instructor supported Noushin by sharing relevant links to Christian websites She thought Noushin's performance in this forum was outstanding. She was particularly impressed how Noushin went as far as to read the Bible in English and use it to support her argument in defense of Martin Walter (Problem Solution Forum 3, August 4, 2008):

Test the spirits to see whether they are from God, because many false prophets are come in to the world." (I Jouhn4:1) That's from bible; … Jesus mentioned it in Bible for all of his students to be sure that none of them will not beguile by false prophets.

Noushin admitted that reading Martin Walter's article and the Bible was challenging. She had to make a frequent use of her dictionary. She also asked some of her friends to translate and explain parts of the Bible to her. She even called her Bahá'í uncle who lived in the U.S. and asked him about Martin Walter's book. She produced a total of seven posts including the first ones where she was expressing her concern about the assignment. Her posts totaled to 1,335 words, which is roughly the size of two-three analysis papers she would write for this course.

In my interpretation, this secondary contradiction had a positive consequence on all three activity systems (intellectual self-improvement, being a Bahá'í, and socializing) in that it facilitated the transformation of their objects. One piece of evidence for this transformation is a number of actions that were directed towards these objects, such as those discussed above. Another piece of evidence comes from Noushin's own words. The following is an example coming from one of the last forum posts (Problem Solution Forum 3, August 8, 2008):

This week I spend most of my time on reading an unusual book for me, ... I cannot stop

reading, its writer William sears was a Christian who believes in Bahá'í faith. The book named "thief in the night". It's a real searching for truth journey. It convinces me. He explains that he had lots of question about 1844. He wants to know why in that year Jesus didn't come back unless most of the Christian in the world were waiting for him, it was the beginning of his journey, with the help of questions and critical thinking he started to read Bibles again and again, ... The true critical thinker is somebody who is ready to hear new ideas and have this ability to change his ideas with new ones, if he fined new ones more useful. ... I believe so that it is wrong to decide about a faith by actions of its followers, yes! It is true that educating believers is important but we cannot judge about a faith by the doings of its followers.

This excerpt represents Noushin's orientation towards the object of intellectual self-improvement and being a Bahá'í. It also demonstrates that this forum provided much opportunity for meaningful interaction which is key to her object of socializing.

What prompted Noushin to resolve this contradiction so boldly is not clear, but there are two motives that appear most instrumental in propelling Noushin's actions in this forum assignment. First, it is her object of being a Bahá'í. She must have seen in this assignment an opportunity to become more prepared to talk about the Bahá'í Faith to people from the Christian background. Another motive that might have also prompted these actions is the concern for her grade, as we see above from the question she sent to her instructor.

Table 17

Secondary Contradictions in Noushin's Activity Systems

	Consequences in activity systems		
Contradictions	Intellectual self-improvement	Being a Bahá'í	Socializing
Insufficient EFL (instrument) vs. object	**Use-and exchange value orientation** - Re-reading of articles 2-4 times - Use of hyperlinked definitions - Use of a dictionary - Active collaboration with classmates - posting questions to forums - seeking help from instructor, translators, subject-matter experts - presumably improved EFL and understanding of critical thinking **Exchange value orientation** - better grades	No evidence	No evidence
Content-	**Use- and exchange value orientation**	No evidence	No evidence

related expectations (community) vs. objects	- Re-reading of articles 2-4 times - Use of hyperlinked definitions - Use of a dictionary - Active collaboration with classmates - posting questions to forums - seeking help from instructor, translators, subject-matter experts - presumably improved EFL and understanding of critical thinking **Exchange value orientation** - better grades		
Misunderstand-ing requirements of the Guide for Analysis Papers (rule) vs. object	**Use- and exchange value orientation** - clarifications from the instructor - extra effort to revise papers - possible re-reading of articles - possibly improved EFL and understanding of critical thinking **Exchange value orientation**	No evidence	No evidence

	- better grades when comments addressed successfully		
	- lower grades when comments addressed unsuccessfully		
Due dates (rules) vs. articles (instruments)	**Use value orientation** Presumably decreased transformation of object due to lost opportunity to engage with the assignments for longer time **Exchange value orientation** No evidence due to instructor's change of the late submission rule	No evidence	No evidence
Internet (technological instruments) vs. object	**Use- and exchange value orientation** Presumably decreased transformation of object due to lost opportunity to communicate via conference calls	Presumably decreased transformation of object due to lost opportunity to communicate via conference calls	Presumably decreased transformation of object due to lost opportunity to communicate via conference calls
Problem	More active transformation of object due to:	More active transformation	More active

| Solution Forum 3 (rule) vs. objects | - active reading of the assigned article
- active reading of the Bible
- frequent use of dictionary
- soliciting help from friends, instructor, and uncle in the US
- making meaningful connections between the course readings
Exchange value orientation
Better grades due to active participation in the forum | of object due to:
- emerged opportunity to understand the Bahá'í Faith through Christianity
- potential opportunity to talk about the Bahá'í Faith a person with a Christian background | transformation of object due to increased opportunity to interact with people for meaningful purpose: friends, instructor, her uncle from the U.S. |

Quaternary Contradictions in Noushin's Activity Systems

Internet provider's activity versus Noushin's course activities.

High speed Internet connection is a recent development in Iran. For this reason, BIHE instructors who teach online strive to reduce the amount Internet use for their courses. With the advent of high speed connection, the quality changed, but apparently it is still not up to the expectations of Western Internet users. Despite the fact Noushin had a high speed Internet connection, conference calls held over Skype or Yahoo! Messenger were accompanied with frequent delays, drops, and background noise. This quaternary contradiction between Noushin's course activities and the outside activity system of the Internet provider had repercussions in the form of a secondary contradiction between Internet as a mediating instrument and Noushin's three objects. This contradiction was discussion in more detail in the section on secondary contradictions above.

Noushin's Bahá'í activity versus course activities.

Noushin's activity of being a Bahá'í obviously existed outside of the course, and it found its way in the shell of the critical thinking course due to favorable conditions the shell provided for it. The data show that there are two ways in which Noushin's activity of being a Bahá'í affected her course activities.

First, Noushin felt it was her duty to be part of the Bahá'í study circles, where they study Bahá'í Writings and try to implement those ideals in their daily life. This caused some time pressure disturbances in her course activities along with the duties she had to fulfill for her other classes (interview, June 29, 2008):

It's harder to do the assignment because I have lesser time, lots of classes, study circles and other things to do. So it was really hard for me to do the assignment on time, and it was hard, but I think it did it.

This quaternary contradiction had consequences in the form of secondary contradictions between the due time as a rule and the articles as mediating instruments in her activities. This contradiction was discussed in more-depth in the section on secondary contradictions above.

Second, Noushin's Bahá'í identity, which was the result of the long-term activity of being a Bahá'í clashed with some of her course activities at the level of the action oriented towards the goal of completing Problem Solution Forum 3. As was discussed above, Noushin found it contradictory to her beliefs to defend an article that attacked the Bahá'í Faith. This quaternary contradiction resulted in the secondary contradiction between the rule of Problem Solution Forum 3 and her object of intellectual self-improvement.

Table 18

Quaternary Contradictions in Noushin's Activity Systems

	Consequences in activity systems		
Contradictions	Intellectual self-improvement	Being a Bahá'í	Socializing
Internet provider activity vs. Noushin's course activities	Secondary contradiction between internet as a mediating instrument and Noushin's object of intellectual self-improvement	Secondary contradiction between internet as a mediating instrument and Noushin's object of being a Bahá'í	Secondary contradiction between internet as a mediating instrument and Noushin's object of socialization
Noushin's activity of being a Bahá'í vs. course activities	- Secondary contradiction between rule of Problem Solution Forum 3 and Noushin's object of intellectual self-improvement		

Summary of Noushin's contradictions and consequences.

Noushin's primary contradictions in the objects had two different patterns: 1) use vs. exchange nature (intellectual self-improvement and being a Bahá'í), and 2) undefined nature of contradictions (socializing). Noushin seems to have been oriented more towards the use value of the two first objects. All these primary contradictions generated secondary contradictions between the objects and one of the mediating elements: 1) insufficient EFL (instrument), 2) content-related expectations of her instructor (community), 3) misunderstanding the requirements of the Guide for analysis papers (rule), 4) due dates (rule), 5) poor internet quality, and 6) requirements in Problem Solution Forum 3.

Figure 21. Contradictions in Noushin's critical thinking shell.
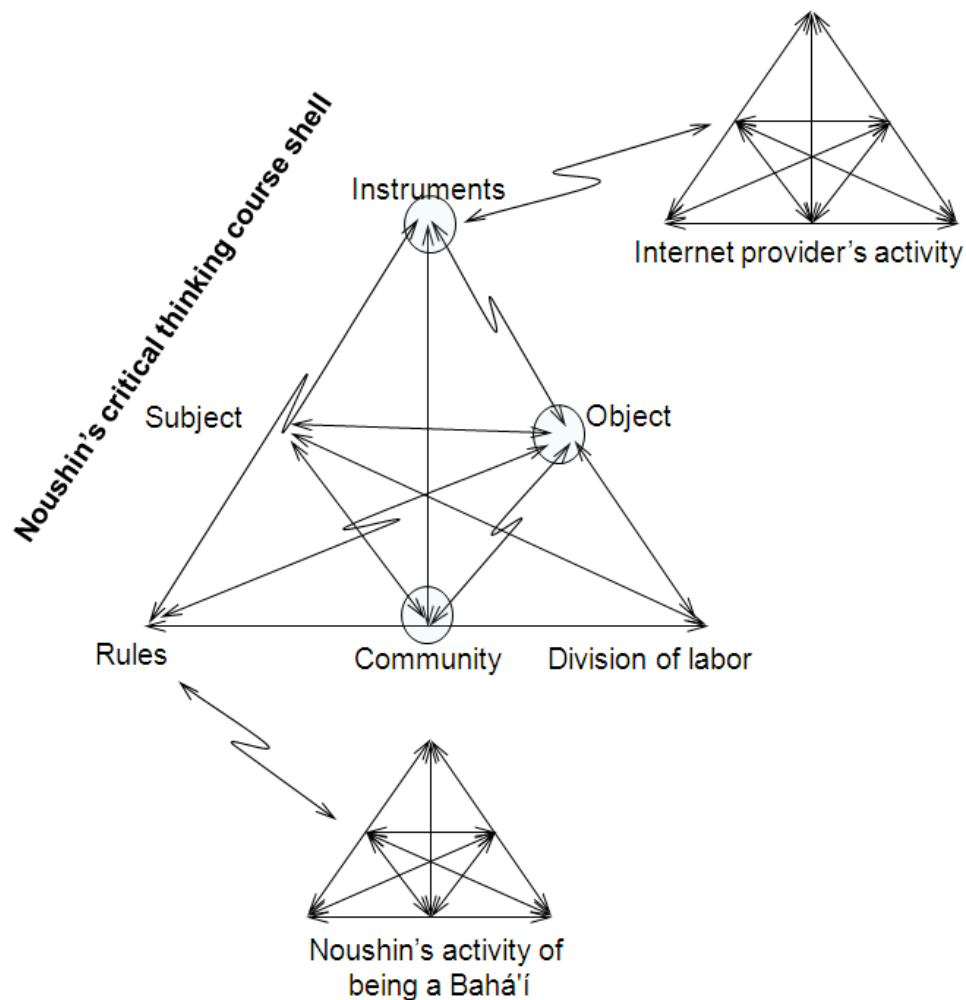
The primary contradictions in the technological instruments had the nature of use and exchange value, with an orientation towards use value. This contradiction did not cause any visible consequences.

The primary contradictions in the community elements of Noushin's activities (intellectual self-improvement, being a Bahá'í, and socializing) were mostly oriented towards the use value of the community members. None of these primary contradictions resulted in any identifiable consequences.

Among the secondary contradiction some had positive and some negative consequences. Among the former were the secondary contradictions between Noushin's objects of intellectual self-improvement and getting a good grade on the one hand, and a number of mediators on the other: 1) insufficient EFL (instrument), 2) instructor's content-related expectations (community), 3) misunderstanding of the requirements for the Analysis Papers (rules), 4) requirements in the problem solution forum. These contradictions caused Noushin to be more engaged in the course materials by a) re-reading the articles, b) making frequent use of a dictionary and hyperlinked words, c) spending time on revising draft papers, d) collaborating actively with classmates, e) seeking help from instructor, English-Farsi translators, and subject-matter experts who spoke Farsi.

Some contradictions tended to cause negative consequences: a) Noushin's objects of self-improvement and getting a good grade versus poor Internet connection, and b) due dates (rules) versus difficulty of articles (instruments). These contradictions yielded tentative consequences in the form of lost opportunity to a) engage more actively in the course materials, and b) communicate via conference calls.

It is interesting to note that the objects of being a Bahá'í and socializing as least related to the course, received fewest number of contradictions and consequences.

There were no tertiary contradictions in Noushin's activity systems, but there were two quaternary contradictions. One of them was between the activity system of Noushin's Internet provider and her course activities. This contradiction caused secondary contradictions between poor Internet connection and her objects. The other quaternary contradiction was between Noushin's activity of being a Bahá'í and her course activities. This contradiction yielded two secondary contradictions: 1) requirements for Problem Solution Forum 3 (rules) and Noushin's objects and 2) due dates (rules) and articles (instruments).

<div align="center">Nazanin</div>

<div align="center">*Nazanin's Profile*</div>

"She reminds me of an attorney, very strict and to the point, going out of the boundaries but not much," (interview, August 17, 2008). This is how Nazanin's instructor described her. I agree with this comparison, and I would add that she would make a just and sympathetic attorney. She comes across as an independent-minded person with a strong will, who knows how to be tolerant of and detached from challenges that cannot be avoided, but voices her opinion on issues that can and should be changed.

Nazanin has an older brother and sister who have their own families. She lives with her parents and likes to spend time with them. During the course, she traveled for a family re-union, for which she willingly sacrificed time from her coursework. She also reserves time for Bahá'í activities, such as study circles where, besides reading Bahá'í Writings, they work on projects related to women rights. These activities occupied her for about six hours per week.

Nazanin's major is pharmacy, and that was her own conscious and determined decision "I really like chemistry, and then I'm interested in different diseases and how to cure them," (interview, June 30, 2008). During the course of the study, she was taking 16

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credit hours, all of which were related to her field, and one had a textbook in English. She had to travel to Tehran during the semester, as her program required, and this caused major disturbances in her course-related activities. Nevertheless, she came across as a well-organized and disciplined student. She carefully budgeted her time considering efficiency a primary criterion, and she seemed rather precise about her plans (interview, June 30, 2008):

So it takes me all my daylight hours to do my paper, almost 12 hours per week. ... I think I made a mistake. I didn't concern my rest time and lunch time. Eight hours, I think and the time it takes me to type it.

Due to her efficient distribution of time, she chose not to take the background survey or make a self-introductory post to the Getting to Know You forum at the beginning of the semester. She justified her decisions without hesitation but with dignity and respect "because I know my classmates," (interview, June 30, 2008). Such decisions on her part somewhat reduced the sources of data for the study. However, her active participation in the required assignments and those that she deemed worthwhile was sufficient to enable me to construct her objects, contradictions, and their consequences in the course.

Nazanin's Activity Systems

In many ways, Nazanin represented an easy case. Her actions were straightforward and much easier to pinpoint in the context of her activity systems. The data show that she had two well-defined activity systems that emerged in the shell of the course: 1) learning critical thinking and 2) improving English (see Figure 22). Depending on the circumstances, she was oriented either towards the use or exchange value in the primary contradictions in her objects, which are discussed in the section on primary contradictions below.

The mediating instruments in her activity system were for the most part the same as described with the previous participants. She obviously used English as a linguistic

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mediating instrument. She used the same course assignments. She highlighted the importance of the Guide for Analysis Papers that she referred to from time to time when needed. For this reason, I placed this document in the instruments corner of her activity systems. Of the three formats of the course articles, she preferred the Microsoft Word format. Sometimes, she used the glossary at the end of the Word document, but she preferred to search for the new words in her computer-based dictionary to save time from scrolling the document back and forth. She also used Yahoo! Messenger and the Moodle message tool to interact with her instructor. Judging by the quality of the Internet connection during our interviews, Nazanin had a dial-up connection.

The division of labor included roles, which were mostly consistent across the two activity systems. Her instructor provided timely and detailed feedback and guidance. The classmates' role was to interact with Nazanin. Nazanin's role was to produce assignments.

She knew and followed the rules very well except when she had to compromise them due to her other obligations. These rules were defined in the Universal Course Structure and in the grading rubrics for the analysis papers, Problem Solution forums, and conference calls.
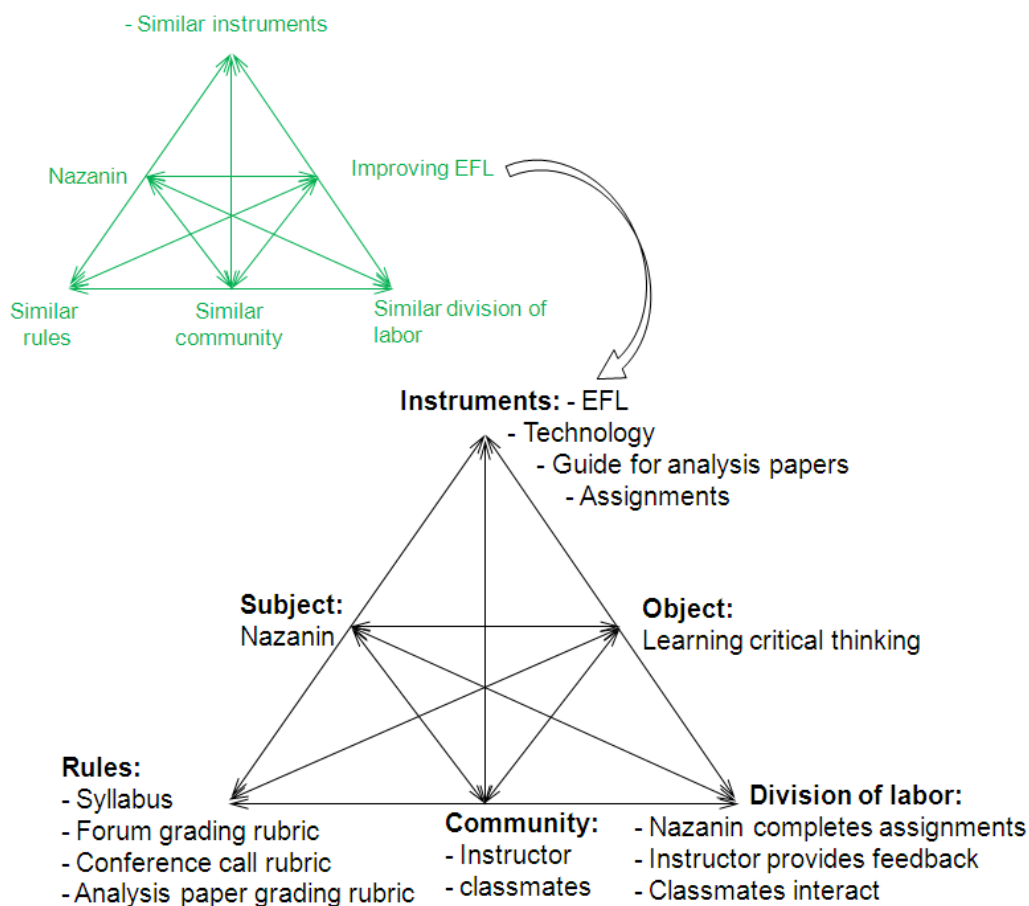
Figure 22. Nazanin's central activity systems in the course shell.

Nazanin's community consisted of her classmates and instructor. She was in the same group with Noushin but was familiar with many of her classmates despite having a different major. As a member of the community, her instructor had a similar approach when working with Nazanin, in terms of accessibility, flexibility, and amount and nature of feedback. She followed the grading rubrics and provided content-related comments mostly based on the Guide for Analysis Papers. Her language-related comments were also generous although they carried a different focus due to Nazanin's more advanced linguistic abilities as compared to Noushin's. Nazanin's reaction to her instructor's feedback was very positive. She appreciated every effort of her instructor made in guiding her, but this did not prevent her from disagreeing with the instructor on certain points.

Nazanin's Activity of Critical Thinking

Unlike any other participants, Nazanin had developed an interest in critical thinking outside of the course shell, which I define as an object of her activity of critical thinking, but her view of critical thinking differed slightly (interview, May 28, 2008):

My goal is to write critical essays and articles. For example, I always wanted to be a movie critic, and I think this course will help me to do this, and also, although it's not very common in Iran, I really want to know how to think critically.

Her interest in the subject matter had both practical and more abstract aspects. For example, she indicated an interest in being a movie or theater critic. Outside of the course, she was engaged in actions directed towards this object, such as reading movie and theater critiques, which had their influence on her style (interview, May 28, 2008):

This is my hobby. I really like articles like movie critiques, and other critiques like theater critiques. When I read I try to learn which process they choose to use in their essay. Also I try to find factors that they used in their article.

A few times during our conversations, she mentioned how important it was to provide a summary like movie and theater critiques do. This sometimes clashed with her instructor's opinion, and at other times it had a favorable effect, which is what her instructor indicated at one stage, "I took the kind of perspective that ... 'Did they analyze it – critical analysis? And did they provide a good review of the paper, not a summary but a review'. And I thought Nazanin did it very well," (interview, May 28, 2008).

Nazanin also highlighted the everyday use of critical thinking, "I really want to be more familiar with practical way of critical thinking in our life," (interview, May 28, 2008). For this reason, she appreciated the Problem Solution forums, where she could apply critical thinking to real life situations.

On the other hand, she was also attracted to a less practice aspect of critical thinking (interview, May 28 2008):

The first article was a little bit difficult because it was full of professional and scientific

philosophy phrases. But it's not very important that they are difficult because I feel

happy when I know something about philosophy or critical thinking.

Half-way through the semester she expressed a heightened interest in philosophy, "I really want to know more about philosophy. ... You know, the concept of philosophy, and ... its progress motivated me to be interested in knowing more things about philosophy," (interview, June 30, 2008). However, according to her, she was never able to transform this aspect of her object perhaps due to time constraints.

Her object of learning critical thinking changed its orientation from being use to exchange value-driven, according to my interpretations. While she still expressed interest in becoming a critic, she was severely constrained by time, and this forced her to concentrate on the grade – the exchange value of learning. Her papers lost the initial touch of insight and originality, and Nazanin herself attributed this to the pressure to produce paper after paper during the last days of the semester. She was never able to do the last Problem Solution forum. Her instructor sensed this contradiction too and felt sorry that she had to rush her last papers in the course (see more discussion on p. 275).

Nazanin's Activity of Improving English

Nazanin started learning English in her childhood, "I didn't write Persian when I learned how to write in English," (interview, May 28, 2008). Her parents introduced her to English through their relatives who knew good English. In school, she took private English classes. She maintained this object very well. At BIHE, she could apply English in English-medium courses in her major, which she rarely struggled with, according to her words. Outside of school, she listened to English news, read books, and watched movies. She made this

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object of hers explicit in our conversations too, "improving English is very important,"

(interview, May 28, 2008). This object was also evident in some of her actions. When

looking through her papers, she sometimes felt embarrassed having made the kinds of

errors she did because of the high expectations she had of herself. She was also picky

about her vocabulary, "Almost it takes one day for me to write my assignment papers

because I'm really sensitive for my word choice, (interview, June 30, 2008).

Because of the time pressure in the second half of the semester, Nazanin's object of

English changed its orientation to being more exchange value driven. She herself as well as

her instructor recognized that she lost the initial focus on English.

Summary of Nazanin's Central Activity Systems

A closer look at the data in the following section shows that Nazanin experienced a

strong secondary contradiction between the demands of the course regulated by the due

dates, which in turn was caused by the quaternary contradiction between the activity of the

BIHE administration and her course activities. This time pressure changed Nazanin's

orientation from use to exchange value in the primary contradictions of the objects of

improving English and learning critical thinking. Figure 23 illustrates this dynamics in

Nazanin's activity systems.
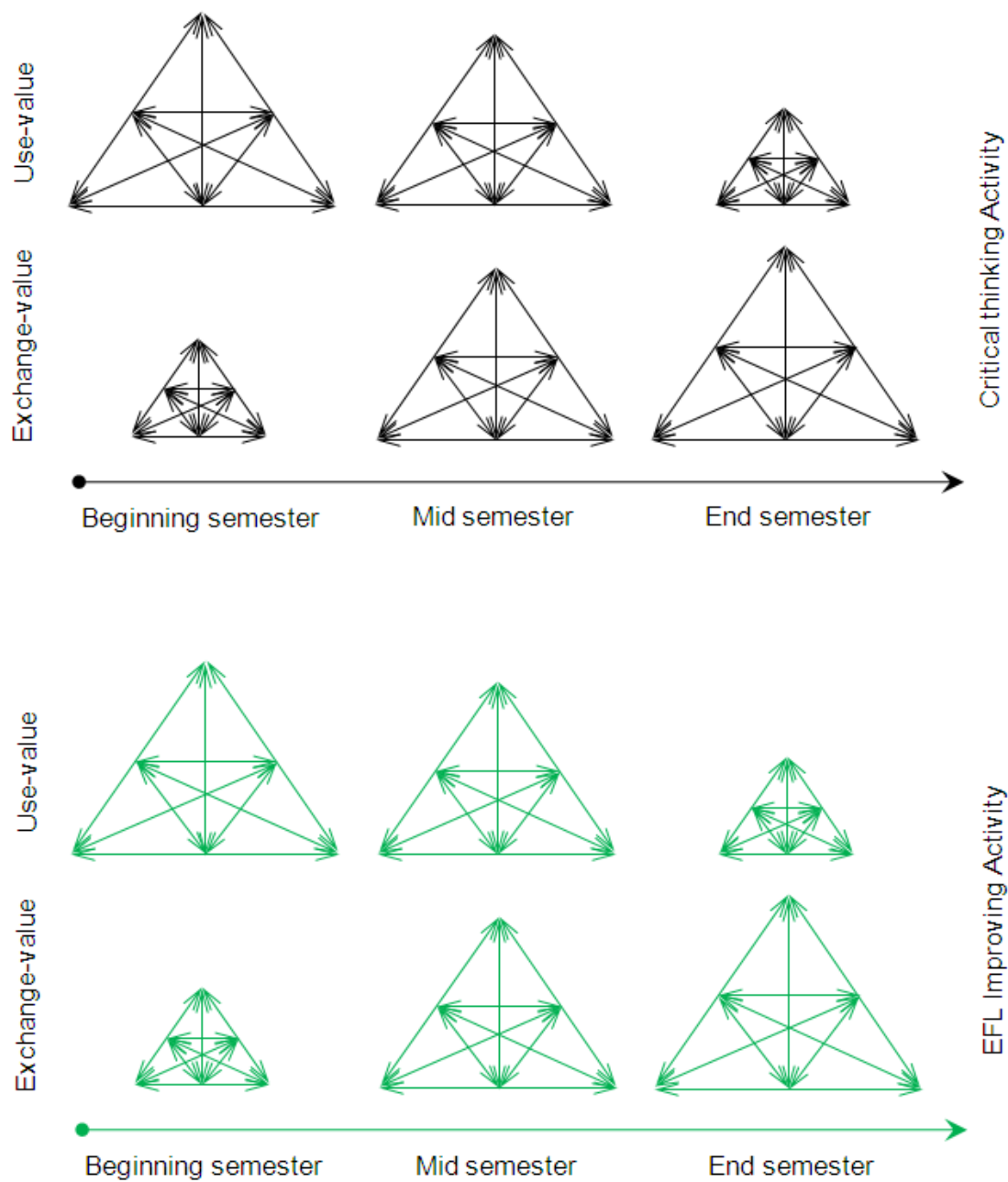
Figure 23. Dynamics of use and exchange values in Nazanin's activity systems overtime.

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Nazanin's Contradictions and Their Consequences

Primary Contradictions in Nazanin's Activity Systems

This section discusses three primary contradictions following the format of the previous cases: primary contradictions in Nazanin's objects, and corresponding technological instruments and communities (see Table 19).

Primary contradiction in objects.

Nazanin's data provide evidence in the shift of her orientation from use to exchange value in the primary contradictions of her objects. At the beginning of the semester, her actions were oriented more towards the English and critical thinking objects. She was also consciously aware of it, "getting a good grade is not really important," (interview, May 28, 2008). She could also afford to spend a whole day on one analysis paper at this stage of the semester. Already in the first half of the semester, she started expressing more concern for her grade. On June 8, 2008 she sent a message to her instructor inquiring about her grade for Problem Solution Forum 1, which she received on June 26. Her grade was 2/3 points, one point dropped because she made only two posts. In the subsequent interview, she confirmed this interest in the grades, "I think it's become more important," (interview, June 30, 2008). At the same time, she claimed that she was satisfied with her grades at this point of the semester. In the following interviews, she continued expressing a concern for her grade, and communicating with her instructor regarding the status of her performance in the course, "My forum garde percent is 42%, but its base is 36% of our final garde, is the grade part working properly?" (interview, August 8, 2008).

Thus, in terms of the object of critical thinking, during the first half of the semester, Nazanin exhibited more a use value orientation in the primary contradiction of the object of learning critical thinking. As the semester progressed, and the time pressure increased, her orientation changed to the use value in that she was striving to obtain a decent grade. This

primary contradiction resulted in the secondary contradictions between her motive to learn critical thinking and 1) insufficient EFL (instrument), 2) content-related expectations of her instructor (community), 3) requirements of the Guide for Analysis Papers 4) due dates (rule), and 5) poor internet quality. These secondary contradictions were generated regardless of whether she was oriented towards the use and exchange value of the object. However, the way she resolved the secondary contradictions changed depending on the orientation in the primary contradiction. This is discussed in the section that follows.

In terms of the object of improving EFL, the primary contradiction in the object of improving English had the same nature and dynamics. Initially, the consequence of the use-oriented contradiction were such regulative behaviors as: 1) spending one daylight worth of time per paper, 2) being sensitive to her word choice in papers, and 3) self-correction of her own papers while copying them from paper to the computer. With time pressure, she had to submit paper after paper at a fast pace, which changed her orientation to the grade. This affected the quality of papers, as her instructor admitted (see p. 275). Thus, during the use value orientation this contradiction generated regulative behaviors that helped Nazanin engage in improving EFL more actively. During the exchange value orientation, her regulative behaviors reduced, and the quality of papers worsened.

Primary contradiction in technological instruments.

The technological instruments in Nazanin's activity systems (CD materials, Moodle functions, and Internet) had the use and exchange value duality. In one of the interviews, Nazanin said that the technological instruments worked smoothly, "Technical problems are solved by our CTA [course technology assistant]. They did a good job," (interview, May 28, 2008). This is despite the fact that these technologies were provided at no cost to Nazanin, i.e. at a very low exchange value.

The Internet connection, however, was problematic. Nazanin had one conference call with her instructor, which was recorded and emailed to me for analysis. The quality of the

call was obviously hindered by repeated drops of connection. Our interviews occurred

under worse conditions. Nazanin was the only participant with whom I chose not to speak

because there was a delay of 10-15 seconds before she could hear my utterance. Instead, I

typed questions in the instant messenger to reduce the delay time, while she responded

orally. In one of the interviews, she mentioned that Internet "is a little expensive in Iran, and

all of us we can't purchase it" (interview, August 13, 2008). She also mentioned that

Internet left much to be desired in their country, "we cannot predict anything about Internet

connection in Iran," (interview, August 13, 2008). It is not clear whether Nazanin did have

high speed connection or not. From the evidence provided above, I tend to conclude that

there were two influences on this poor quality: Nazanin's decision to pay less and use dial-

up which is the primary contradiction between use and exchange value of Internet and a

general quality of Internet connection in Iran, which is a quaternary contradiction between

the Internet providers and Nazanin's course activities. As such, this primary contradiction

has a tentative consequence in the form of a secondary contradiction between Internet as a

mediating instrument and Nazanin's objects in the course.

Table 19

Primary Contradictions in Nazanin's Activity Systems

	Consequences in activity systems	
Contradictions	Learning critical thinking	Improving EFL
Use vs. exchange value in objects	**Use- and exchange value orientation:** Secondary contradiction between Nazanin's object and 1) insufficient EFL (instrument), 2) content-related expectations of her instructor (community), 3) requirements of the Guide for Analysis Papers 4) due dates (rule), and 5) poor internet quality	**Use value orientation:** Regulative behaviors: - self-correction of errors while typing up her hand-written papers - spending one day per paper; - improving her word choice **Exchange value orientation:** - spending less time per paper - Decreased quality of papers
Use vs. exchange value in Internet (instrument)	Secondary contradiction between Internet as a mediating instrument and Nazanin's object of critical thinking	Secondary contradiction between Internet as a mediating instrument and Nazanin's object of improving EFL
Use vs. exchange value in forum grading rubric (rule)	**Exchange value orientation** - more frequent posts - higher grade	**Exchange value orientation** - more frequent posts - higher grade

Primary contradiction in rules.

This primary contraction is the last one that emerged in Nazanin's data. As the semester progressed, her orientation towards the exchange value in the primary contradiction of the grading rubric of the Problem Solution forums intensified. In Forum 1, Nazanin made two posts. After she received the ratings from her instructor, she became more motivated by the grade and increased her participation in Forum 2 (interview, June 30, 2008):

I realized that the forum grades are very important, and I didn't have a very active participating in forums. Then my tutor told me that if you want to get a better grade in some activities you should ... plan my schedule to participate more in this activity.

Thus, the consequence of this shift towards the exchange value in the rule of the grading rubric generated more active participation from Nazanin. Since it is impossible to distinguish between the actions directed towards critical thinking object and EFL object in the forums, the consequences are applied to both of them. Whether this shift adversely affected the meaningfulness of these actions for Nazanin is not clear from the data.

Secondary Contradictions in Nazanin's Activity Systems

Insufficient EFL versus Nazanin's object.

This contradiction implies systematic disturbances between EFL as a mediating instrument and Nazanin's object of learning critical thinking. In Nazanin's data, these kinds of disturbances became evident through the feedback where the instructor asked Nazanin to change the language in order to clarify her thoughts about the subject matter. There were a total of 10 instances of such contradictions in six analysis papers. The last two papers did not contain such comments. A typical example of such disturbance was Nazanin's misuse

of the modal verb *could* such as in the example below, which is followed by her instructor's comment in parenthesis (Analysis Paper 2, May 28, 2008):

The author chooses to begin his article from a definition standpoint. He *could* perfectly clarify the definition of different levels of process of critical thinking for the reader with simplified keywords (Are you recommending that he 'could' have done all the things you mentioned, but didn't?).

The other source of evidence for this contradiction is Nazanin's own words. She attested that some readings were challenging although she was not dismayed by this challenge. She particularly referred to the articles in the first and fourth modules.

This secondary contradiction caused a few consequences in the form of pedagogically favorable regulative behaviors, such as using a dictionary, "When I read the article I use the dictionary many times because in every article there are many words that I don't know," (interview, May 28, 2008). She also guessed some words from context. Another set of regulative behavior was taking notes while reading the articles and writing the essay on paper before typing it on the computer. However, these actions, according to her, were not caused by the contradictions due to insufficient EFL, "I think writing with pen and pencil is better. It's a habit. I don't have a really logical reason about it," (interview, May 28, 2008).

Instructor's content-related expectations versus Nazanin's object.

As was mentioned earlier, instructor feedback could be viewed as facilitating and inhibiting. The student always looks forward to the facilitating kind of feedback and works with it willingly. The inhibiting feedback may cause the student's disagreement or confusion, and in that sense it usually does not lead to the desirable improvement. In Nazanin's case, there was some evidence that her instructor's feedback on the content was an inhibiting disturbance. This evidence comes from repeated failure to address the comments from the instructor. There were a total of nine such instances when the instructor probed Nazanin's thinking further and she did not address her feedback. Only once, did she leave a note

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saying that she did not understand what her instructor asked of her. Interviews shed some light on this behavior. Nazanin explained that she either did not remember why she did not address them or did not do so because she strongly believed she was right, ""I used words and examples of the author and my teacher said it's better to use your own words. I didn't do anything because at that time I thought these examples are perfect," (interview, August 14, 2008). In the last papers, she was also under time pressure, which implies her grade orientation to learning.

Thus, while Nazanin did address a total of eight content-related comments from the instructor, which I interpret as facilitating feedback, she also missed a number of other comments because she 1) was pressed for time, 2) did not understand the comment, or 3) did not think that the instructor's comment was in line with her understanding of the object. The consequences of this secondary contradiction did not produce any remedial actions from Nazanin. As such, they did not contribute to the transformation of the object of critical thinking.

Guide for analysis papers versus Nazanin's objects.

Some of the feedback provided from the instructors was based on the requirements of the Guide for Analysis Papers. Nazanin addressed most of them. However, there were a total of seven such comments that she did not address in four different papers. Her reasoning was the same as that which she provided for the missing corrections of the content-related issues: 1) pressed for time, 2) not understanding the comment, or 3) disagreeing with the instructor. Because this kind of feedback was at best not followed up by any actions on her part, or confused her, the consequences were not conducive to the transformation of Nazanin's objects of critical thinking or improving EFL.

Due dates versus objects.

Nazanin comes across as a disciplined student. Of the first four final papers, she was only late with one paper for two days. However, starting from the second in the second half

of the semester, all of her final papers arrived late, on average eight days late. She

attributes this to the necessity to travel. She admits that one reason was her own choice

when she traveled to a family re-union. However, she was adamant about the second

reason – the necessity to travel to Tehran for a face-to-face class for a long period of time

that removed her from the course activities (interview, July 10, 2008):

> Hi dear [Instructor's name], I am sorry that I was late for my final papee for module 5, it
>
> is because I am in a 20 days of my classes. It is very long and I have difficulties to
>
> access to the Internet. Would you please give me some times?

> Because Nazanin's instructor modified the rule with the late submissions and decided

not to penalize for lateness, this contradiction did not affect her grade. However, it had a

dramatic consequence on her objects of improving EFL and learning critical thinking. Her

papers lost their original quality, and her instructor felt that too (interview, August 17, 2008):

> Nazanin, I know that you are submitting your remaining papers (final 5, draft 6, 7, and
>
> 8) to me the last few days of class and I am assuming that you are rushed.... I am not
>
> sure, but it seems that you were quick to write this draft and some of the comments
>
> that I included in your draft were not used to revise your final paper.

> In addition to analysis papers, this contradiction affected her contributions to the last

Problem Solution forum. She was not able to make any posts because she was pressed for

time to completed analysis papers that were more heavily weighted.

> Such pressure changed Nazanin's orientation from use to exchange value in the

primary contradictions of her objects. This is reflected in the motive of her efforts: the

rushing of papers to meet time deadlines instead of the re-reading of the articles and

meticulous word selection.

Internet versus Nazanin's Objects.

Just as with Noushin, Nazanin struggled because of the poor Internet connection.

Nazanin had one conference call at the beginning of the semester, which occured under

tough conditions due to frequent drops. Later, they arranged for another conference call, and Nazanin looked forward to it, "I am very curious to have an conference call and talk with you about module 4 and its article," (interview, June 12, 2008). However, her instructor had a conflict in her schedule, so they had to postpone it. The next time, Nazanin did not show up for the conference call, and this is the instant message that her instructor left for her (interview, June 19, 2008):

Just to let you know that I was waiting for you this morning. I have another conference call waiting for me so I will go to them....just in case you come on line. Let me know if you would like to schedule another conference call.

These interactions show that the main reason for the missed conference call was not the Internet connection. However, it indicates that Nazanin was genuinely interested in conference calls. It is also clear that the Internet connection was poor. I conclude that Nazanin did experience this secondary contradiction due to poor Internet connection although it is not clear whether it had any consistent consequences on any of her objects.

Table 20 summarizes the secondary contradictions in Nazanin's activity systems.

Table 20

Secondary Contradictions in Nazanin's Activity Systems

	Consequences in activity systems	
Contradictions	Learning critical thinking	Improving EFL
Insufficient EFL (instrument) vs. object	**Use value orientation:** - Use of a dictionary - Guessing words from context - Re-reading of the articles - Presumably improved understanding of critical thinking and improved EFL **Exchange value orientation:** - Reduced quality of papers	Theoretically no contradictions
Content-related expectations (community) vs. objects	No follow-up actions, hence impeded transformation of object	No follow-up actions, hence impeded transformation of object
Requirements of Guide for Analysis Papers (rule) vs. objects	No follow-up actions, hence impeded transformation of object	No follow-up actions, hence impeded transformation of object
Due dates	**Exchange value orientation:**	**Exchange value orientation:**

(rules) vs. objects	- Reduced amount of time spent on revisions	- Reduced amount of time spent on revisions
	- Presumably decreased transformation of object due to lost opportunity to engage with the assignments for longer time	- Presumably decreased transformation of object due to lost opportunity to engage with the assignments for longer time
Internet (technological instruments) vs. object	No evidence of consequences	No evidence of consequences

Quaternary Contradictions in Nazanin's Activity Systems

Internet provider's activity versus Nazanin's course activities.

As was mentioned, Nazanin experienced poor Internet connection during the conference call with her instructor. Beyond that she expressed much concern for the poor Internet connection in general and how it was "unpredictable" (interview, August 13, 2008). She also mentioned this disturbance in another discussion about the quality of BIHE education. She referred to poor Internet connection as one of the serious obstacles for BIHE because of its move towards online education. It is not solid evidence, but we can still tentatively conclude that this quaternary contradiction existed in Nazanin's course-related activity systems. Together with primary contradiction in the mediating instrument of Internet, this quaternary contradiction created secondary contradictions between Nazanin's objects and Internet as a mediating instrument.

BIHE administration versus Nazanin's course activities.

Nazanin was in general very disturbed by the BIHE administration. She admitted that all these challenges stemmed from the government's efforts to stop the functioning of BIHE. Yet she strongly believed it could do more to accommodate the students. She felt pressured having to travel to Tehran for several weeks and be disconnected from Internet, which jeopardized her online courses. She felt pressured having to take several difficult exams in one day. She was pressured having to take semester-long courses within a matter of several weeks. She had many concerns, but her biggest concern in this respect was scheduling, "It's against the things that students want. ...First, we must schedule better," (interview, August 13, 2008). This quaternary contradiction caused secondary contradictions between the due dates and Nazanin's objects in the course.

Table 21 summarizes the discussion of the quaternary contradictions and their consequences.

Table 21

Quaternary Contradictions in Nazanin's Activity Systems

	Consequences in activity systems	
Contradictions	Learning critical thinking	Improving EFL
Internet provider activity vs. Nazanin's course activities	- Secondary contradiction between Internet as a mediating instrument and Nazanin's object of critical thinking	- Secondary contradiction between Internet as a mediating instrument and Nazanin's object of improving EFL
BIHE administration	- Secondary contradiction between due dates (rules) and	- Secondary contradiction between due dates (rules) and

| vs. Nazanin's course activities | Nazanin's object of critical thinking
- produced exchange value orientation | Nazanin's object of learning EFL
- produced exchange value orientation |

Summary of Nazanin's contradictions and consequences.

Nazanin's primary contradictions in the object of critical thinking generated secondary level contradictions between the objects and one of the mediating elements: 1) insufficient EFL (instrument), 2) content-related expectations of her instructor (community), 3) requirements of the Guide for Analysis Papers 4) due dates (rule), and 5) poor internet quality.

The primary contradiction in the object of improving EFL produced regulative behaviors, such as self-correction of errors and prolonged engagement with paper assignments. However, when Nazanin's orientation changed to the exchange value, the quality of papers decreased, which could have happened because of the reduction of these regulative behaviors.
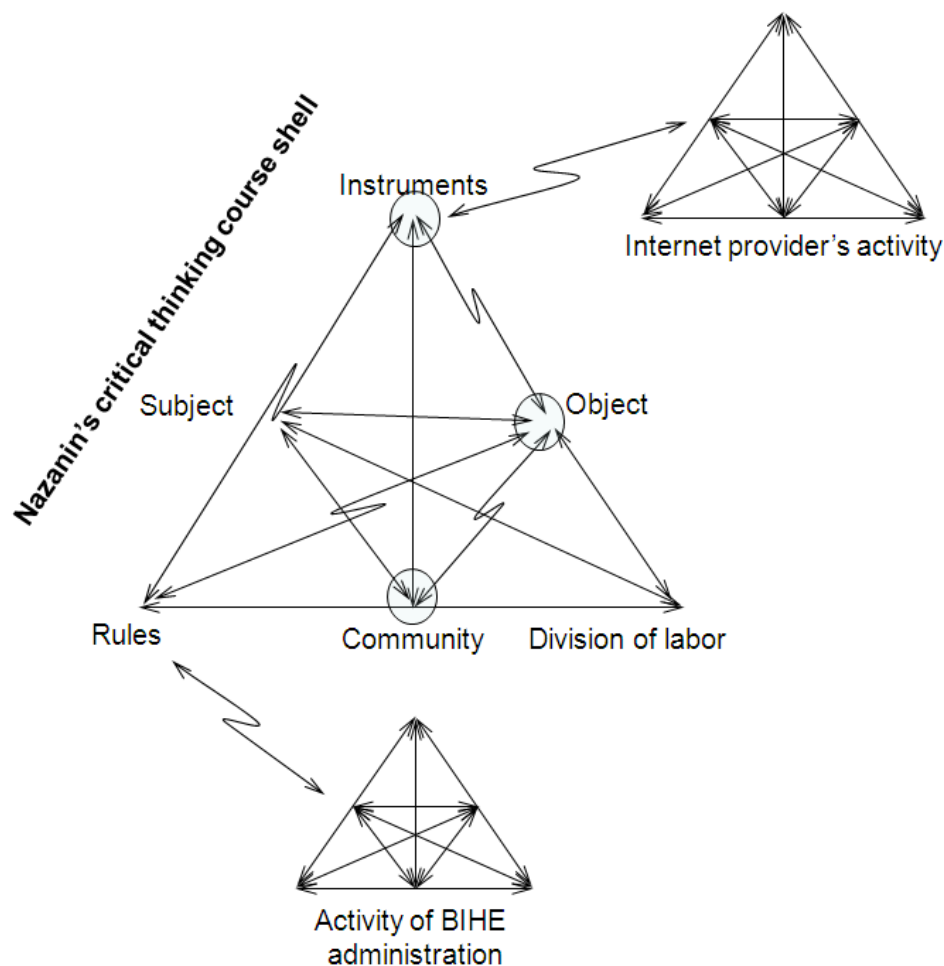
Figure 24. Contradictions in Nazanin's critical thinking shell.

The primary contradictions in the technological instruments had the nature of use and exchange value. Of all technological instruments, Internet was the only one that had a visible primary contraction, which in turn caused a secondary contradiction between Internet and Nazanin's objects.

The primary contradictions in the rule of the forum grading rubric increased its exchange value orientation. This produced more active participation in the subsequent forum discussion, but whether this participation contributed to the transformation of the use value of the object is not clear.

Of all secondary contradictions, only the one between insufficient EFL (instrument) and Nazanin's objects had positive consequences in the form of frequent use of a dictionary,

guessing words from context, and re-reading the articles, which presumably facilitated the transformation of her object of critical thinking. These regulative behaviors also presumably and indirectly facilitated the transformation of her object of improving EFL.

The secondary contradiction between the due dates (rule) and Nazanin's objects caused serious negative consequences on both objects: critical thinking and EFL. As a result of pressure, Nazanin had to develop innovative techniques that helped her cope with this contradiction. Among them was reduced amount of time spent on her analysis papers. She also had to dismiss some of her instructor's feedback that perhaps was not immediately clear. This resulted in poorer quality of her work. Finally, she had to abandon the last Problem Solution forum. In other words, this contradiction changed Nazanin's orientation in the primary contradictions of her objects from being directed towards use to exchange value that prioritized the grade above all. Another secondary contradiction between Internet (instrument) and Nazanin's objects did not cause any visible contradictions.

There were two other secondary contradictions that had negative consequences: between Nazanin's objects of critical thinking and EFL and 1) her instructor's content-related expectations and 2) the requirements of the Guide for Analysis Papers. Because of these contradictions, Nazanin abandon efforts to improve her papers.

Finally, Nazanin's quaternary contradictions included two: between Nazanin's course-related activity systems on the one hand, and the activities of 1) BIHE administration and 2) Internet providers, on the other hand. The first one resulted in the secondary contradiction between due dates (rules) and Nazanin's objects. The second one resulted in the secondary contradiction between Internet (instrument) and Nazanin's objects.

<div align="center">Shahin</div>

Shahin's Profile

Of all participants, I have connected most closely with Shahin. Partly, it is because he was one of my students, but I think more importantly he had a personality that I could relate to. Shahin spoke slowly, both in Farsi and of course in English; his English proficiency was more limited compared to the other participants. His leisurely and low voice invokes an image of Al Pacino in The Godfather. Yet his personality was just the opposite. He often asked me about my family, having once heard my son's voice in the background. He mentioned his mother and sister several times during our four conference calls. He apologized many times and was willing to do more than I expected without asking for anything despite his hectic schedule. He sounded like a very humble and hard-working person.

At the age of 21, Shahin was already a successful professional. He was working full-time for a computer company as a network specialist. His responsibility included setting up and supporting computer networks in organizations and companies. He was often on call and had to travel to other cities. Shahin was goal-oriented and determined. Besides taking seven BIHE courses during this study, he was also taking a Microsoft certification course. His ambitions, however, were not limited to being simply am expert computer engineer. He aspired to knowledge in many fields for the sake of intellectual growth. His next academic goal was to continue his education in the United States or Canada towards a master's and doctoral degree in computer science. In fact, in the second half of the semester, he took a teaching job at a private university to teach two programming courses, and he enjoyed this experience tremendously.

Shahin failed the critical thinking course and other courses too. He never bargained, unlike many other BIHE students. He accepted this fact matter-of-factly admitting that he would rather re-take the course to learn more from it. Because he participated in the course

only during the first two modules, the discussion of his activity systems as well as contradictions and consequences are not as extensive as with the other participants.

Shahin's Activity Systems

Despite Shahin's limited presence in the course, his activity systems emerged rather clearly: 1) improving EFL, and 2) intellectual self-improvement (Figure 25).

Shahin's mediating instruments in the course shell included English as a foreign language, technological instruments, dictionaries, and his mother and sister who knew good English. Of the three formats of the course articles, he preferred the Microsoft Word format because he printed out the articles to take notes on them. He had a high-speed internet connection. He also used the Guide for Analysis Papers to mediate his course-related actions. Just as Nazanin, Shahin seemed to have placed this document in the instruments corner of his course-related activities. When I asked him to recall the process of writing his analysis paper, he mentioned referencing this Guide for Analysis Papers to facilitate his writing process. Rather than controlling and disturbing his actions, which was the case with some other participants, the guide helped Shahin facilitate his thinking and writing processes. During his recall, he could easily remember the elements of analysis papers. Because his second draft paper missed many of those elements, I asked him to explain the reason. He admitted that he had had no time to reference to the guide, "Sorry, but I didn't read the guidance [guide] again, and I just read the article, and then I write my assignment. I think I must spend more time for my assignment," (interview, June 26, 2008). This incident supports Shahin's attitude towards the guide as a facilitating instrument rather than a restricting rule.

In terms of division of labor, his instructor provided guidance through written feedback and conference calls. Shahin also collaborated with his classmates, but this collaboration

took place outside of the course shell, "No, I chat with them and ask them for help. ... When I have a hard time special problem, I call them on the phone," (interview, May 26, 2008).

The rules were defined by the Universal Course Structure as well as the grading rubrics for analysis papers and possibly conference calls. Because he did not participate in any forum discussions, their rubrics are not included in his rules.
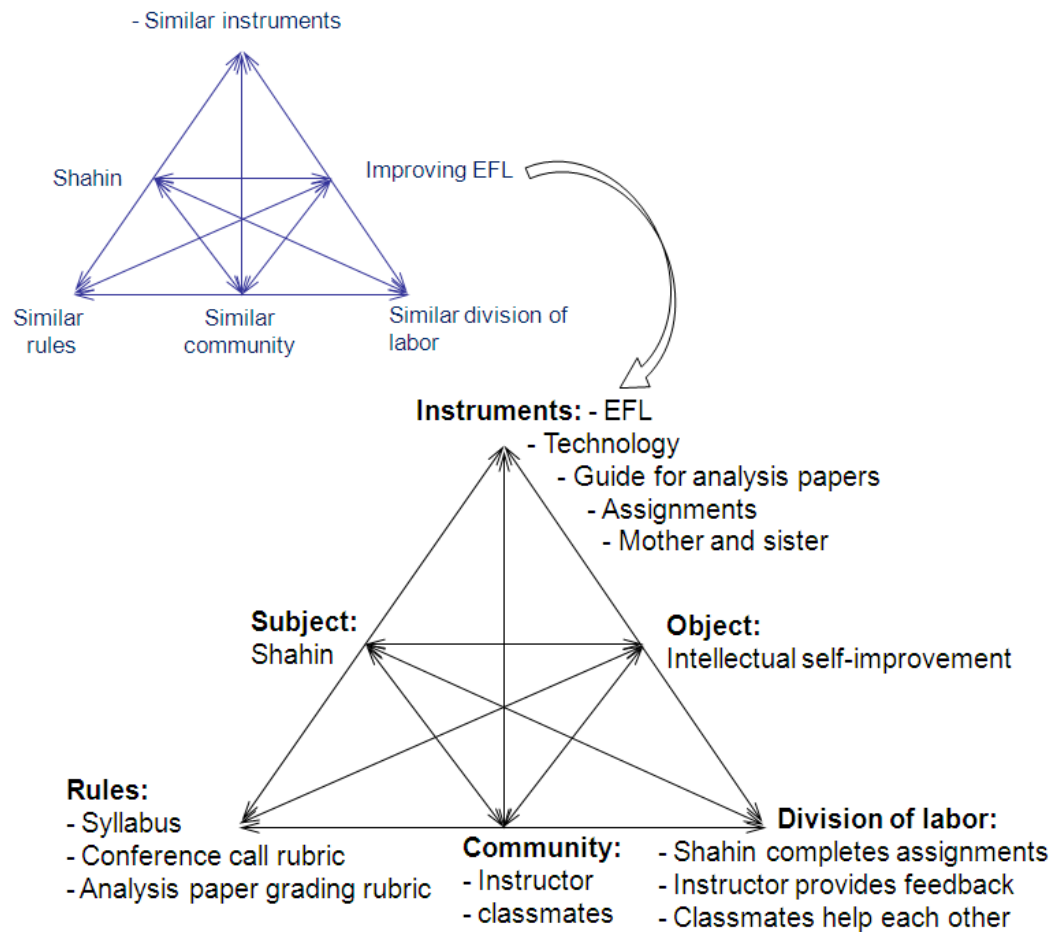
Figure 25. Shahin's central activity systems in the course shell.

Shahin's community consisted of his instructor and fellow students. As in Azita's case, who solicited help from her sister, I put Shahin's mother and sister in the instruments node because he only asked them for help occasionally. They were not engaged in the same

course-taking process as his classmates or instructor so as to be included in the community node.

As an instructor, I tried to support him as much as I supported the other students. However, because he was one of my participants, I inevitably spent more time with him and sent more messages to him than I did to the other students. I relied on the Guide for Analysis Papers when providing content feedback because I assumed the students read it, and I could use it as a reference document. Besides, I had not taught much critical thinking as a subject matter of a course per se. Although I was instrumental in designing and developing the course, it was safer for me to follow a familiar path than experimenting with new ways of tapping into students' critical thinking abilities, which is what Azita and Azad's instructor did. Overall, I made every effort to encourage my students to make connections between the articles and their analysis papers.

I also provided language-related feedback. In doing so, I tried to find patterns of errors and focus only on them. Sometimes, I would simply underline segments with errors; at other times I'd leave a comment. I also encouraged students to ask me where they wanted my feedback. I consistently left reminders in the students' analysis papers to underline words and phrases that they were not sure about. Some students developed this habit. Shahin did not, perhaps because he had a chance to write only 1.5 papers. His last submission was the draft for the second analysis paper.

Shahin's Activity of Intellectual Self-improvement

Shahin did develop some interest in critical thinking, but this subject matter seemed to belong to the category of many other of his interests (interview, May 26, 2008):

I like philosophy and critical thinking. I think all people must know about them a little. I think we must know a little about everything. We must know about math, computer science, and philosophy. And I think all of us should know about critical thinking.

On the surface, according to his accounts, his actions could indicate a special interest in critical thinking. For example, he read additional online sources on critical thinking in Farsi. On the other hand, he did the same for the other courses, such as math. According to my interpretation, Shahin had a tendency to be a perfectionist. He often said how important it was to do his best in everything. When I asked him about this attitude, he told me of an elderly friend of his who taught him this wisdom, "it's important to be best. If you do your best, people like you. You'd be a good person. You'd succeed. I think of it, and I think he's right. I try to do best that I can," (interview, July 17, 2008). This in a way contradicted his overall performance in the critical thinking course and a few other courses that he had to fail, but it could also be viewed as his attempt to excel in the number of courses he could take and complete his BIHE education sooner. It could also be his hunger for knowledge and growth, which coupled with a lack of time management skills could lead to the opposite results.

His rationale for attending BIHE seems to be based on the same object of intellectual self-improvement (interview, August 27, 2008):

BIHE makes me a person that ... learn and learn. I go to my certification from Microsoft and other company that give certificate. But it think BIHE is very nice even in my life and open door to new world.

Shahin's Activity of Improving English

There is enough evidence to identify Shahin's object of improving English. It was in many ways a vehicle to transform many other objects of his, such as intellectual self-improvement, becoming a professional in his field, or receiving a Ph.D. in computer science (interview, May 26, 2008):

I like the words, the new words. ...I think ...a foreign language help us make relationships with other people, ... any nation, any language. ... I want to continue my

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education. ... When we want to learn Ph.D. in, for example, computer science, you

must know English language because all of the resources for subject is English.

Shahin's actions confirmed the presence of this object. For example, he purposefully

learned certain words form the articles (interview, June 26, 2008):

I try to write the vocabulary in a paper, and I try to learn them in my free time in work. I

repeat them everywhere in a bus, in a bus station, before sleep when I'm eating ...

breakfast or lunch.

He would also write his own draft of the analysis paper and then copy and paste it

below and edit it for grammar mistakes. He could not explain why he did it, except that it

was his habit.

Given his drive for excellence and a number of other long-term ambitions such as

studying abroad, one may interpret Shahin's interest in English as actions directed towards

those objects, rather than belonging to the object of improving English. After all, he

frequently places English in the context of his other plans, such as access to information,

studying abroad, or connecting to people. However, I interpret his interest in English as an

object in its own right. English occupies an intermediary position in his web of activity

systems in that it serves as a mediating instrument to transform those other objects.

However, this only supports the assertion that Shahin has formed a separate activity

system for English. This is in line with Engeström's (1987) discussion of instrument-

producing activities. Science and art are examples of such instrument-producing activities

that produce instruments to mediate other activities.

Summary of Shahin's Central Activity Systems

Shahin proceeded to work on course assignments until Module 6, according to his

words. He also claimed he had hand-written drafts of the analysis papers for Modules 3 and

4, but was never able to type them up and upload online. In the end, he virtually had no

time left for this course and some of his other courses. I interpret this as a weakening of the transformation of his objects of critical thinking and English in their use value orientation. At the same time, Shahin did not develop his exchange value orientation in his objects. He did not seem to increase his effort because of the grade, which can be interpreted as a weak yet stable exchange value of these objects. Figure 26 demonstrates this dynamic.
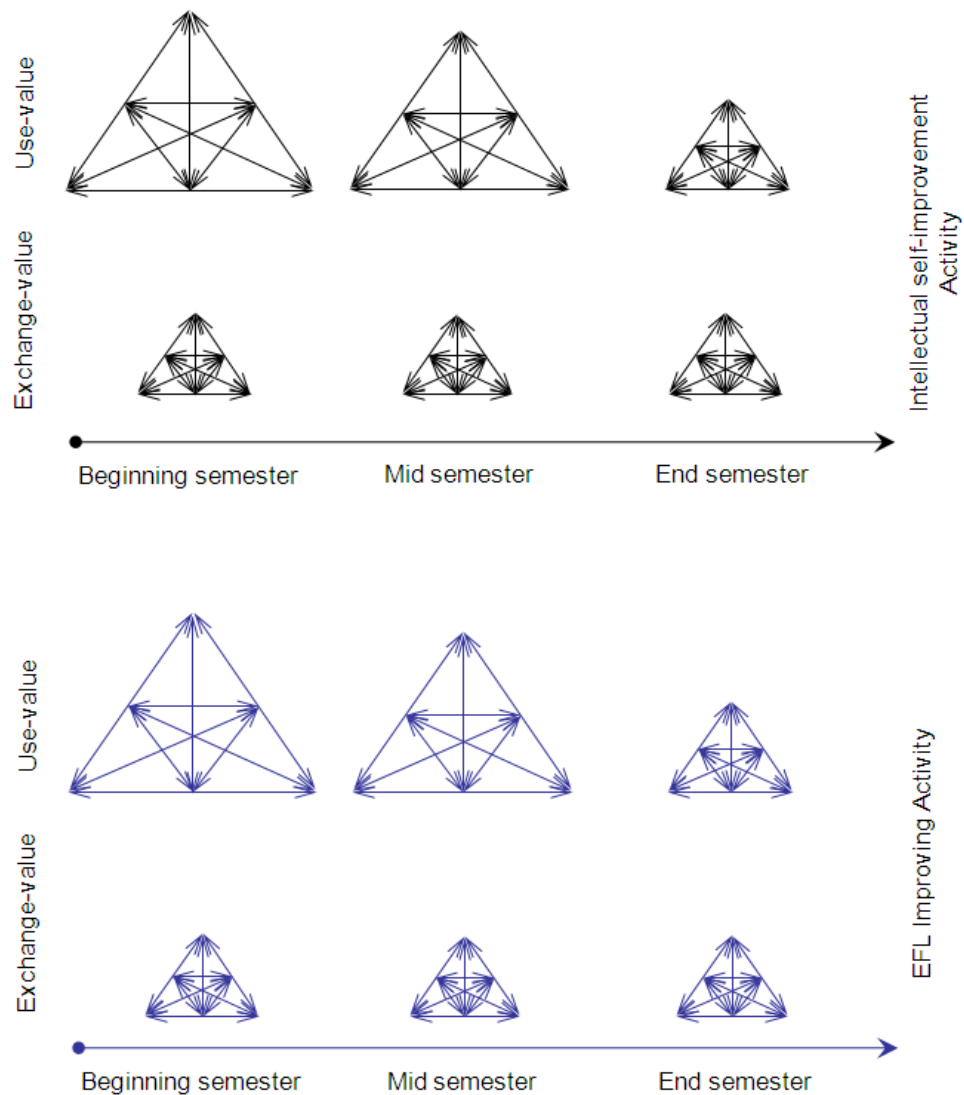
Figure 26. Dynamics of use and exchange values in Shahin's activity systems overtime.

Shahin's Contradictions and Their Consequences

Primary Contradictions in Shahin's Activity Systems

In Shahin's data, three primary contradictions could be identified: in his objects, technological instruments, and the rule of the forum grading rubric.

Primary contradiction in objects.

From the very beginning, Shahin did not shy away from his interest in the grade, "Sure, I would like to get a top grade," (interview, May 28, 2008). However, his actions were strongly oriented towards the use value in many elements of his activity systems.

First, in the object of intellectual self-improvement, Shahin was oriented towards its use value, "I like philosophy and critical thinking. I think we must know a little about everything. We must know about math, computer science, and philosophy. And I think all of us should know about critical thinking," (interview, May 28, 2008). He did not change his orientation to exchange value despite the increasing time pressure. Instead he attempted to read the articles in small parts during short breaks at work and hand-write his analysis papers. This will be discussed in more detail in reference to the secondary contradiction due to time pressure. However, this demonstrates that he remained faithful to the quality of learning, which possibly caused his failure of the course. There is clear evidence, though, that this use-oriented contradiction caused a number of secondary contradictions between his object of self-improvement and 1) insufficient EFL (instrument), 2) the Guide for Analysis Papers (instrument), 3) due dates (rules), and 4) inadequacy of forum grading rubric (rule).

Second, in his object of improving English was also motivated by its real-life use for future master's and Ph.D. degrees in an English-speaking country, for connecting with people, and accessing information. According to him, he remained steadfast in his use value orientation despite the time pressure, "I try to cover all of my assignments. ... It's not important for me to pass or fail, but important for me to do all of my assignments,"

(interview, June 26, 2008). This contradiction generated several regulative behaviors, such as copying translations of words and sentences from articles on paper for memorization and seeking help from his sister and mother.

Primary contradiction in technological instruments.

The primary contradiction in technological instruments was identical to that of the other participants. CD materials, Moodle, and Internet had the use and exchange value nature. The CD materials did not work smoothly for Shahin, but because the same materials were uploaded online, he was able to resolve this potential contradiction by downloading the materials from the course site. He had a high speed Internet connection and did not complain about its quality although our conversations did have noticeable delays, drops, and noise. Even if the poor connection had affected the transformation of his objects, it would have been due to the quaternary contradiction between Shahin's course objects and the Internet provider's activity.

Primary contradiction in rules.

In his orientation to the forum grading rubric as a rule, Shahin likewise looked for use value and disregarded any exchange value. In that sense, he was a rebel according to Engeström's (1987) definition of the use value orientation to rules. He did not make a single forum post during the course, not even in the Getting to Know You forum, and he had two reasons for this decision. First, he thought forums due to their asynchronous nature were inefficient to address the questions he had about the assignments. Here, he referred to the optional pre-writing activity where students could discuss the articles (interview, June 26, 2008):

For example, I try to do my assignment. When I read the article and I face one problem I post it to the forum, and ... at least two, three or four hours later, you ..post the answer. But again I couldn't understand, ... and then I post my question again. But when I ask my question ... my sister for example, she send five or six minutes for me.

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The second reason was his apprehension to lose face in front of his group-mates (interview, May 26, 2008):

Sometimes it's ... very hard for us to show our mistakes or our problems, our opinions to our classmates. It's very easy to show them to our teacher. ... I'm afraid to tell my opinion because I think about my mistakes I worry about them.

These two reasons that clearly have real-life use value orientation prevented Shahin from participating in the forum discussions. The consequence of this contradiction is the secondary contradiction between forums and his actual objects. At this level, his adherence to the use value actually had effects on his course grade.

See Table 22 for the summary of Shahin's primary contradictions and their consequences.

Table 22

Primary Contradictions in Shahin's Activity Systems

	Consequences in activity systems	
Contradictions	Intellectual self-improvement	Improving EFL
Use vs. exchange in objects	Secondary contradictions between object and: - insufficient EFL (instrument) - the Guide for Analysis Papers (instrument) - due dates (rules) - inadequacy of forum grading rubric (rule)	Secondary contradictions between object and: - copying translations of words and sentences from articles on paper for memorization - seeking help from his sister and mother
Use vs.	No visible contradictions	No visible contradictions

exchange value in Internet (instrument)		
Use vs. exchange value in forum grading rubric (rule)	Secondary contradiction between Inadequacy of the forum grading rubric (rule) and Shahin's object of self-improvement	Secondary contradiction between Inadequacy of the forum grading rubric (rule) and Shahin's object of improving EFL

Secondary Contradictions in Shahin's Activity Systems

Insufficient EFL versus Shahin's object.

Perhaps because he only wrote two drafts and one final paper, there were no instances of unclear thoughts in his sentences due to his insufficient English proficiency. This contradiction transpired mostly through Shahin's accounts of the challenges that he encountered while reading the articles and writing analysis papers. According to him, limited vocabulary knowledge was one serious obstacle in his effort to transform the object of intellectual self-improvement (interview, June 26, 2008):

Because critical thinking ... you need to find vocabulary you need find sentence and understand the sentences, but with other courses you need to work with them. ...For example, ... one book about data structure, … it's not necessary for you find all of the vocabulary.

He also mentioned that sometimes he was not sure how to word his ideas in his analysis papers.

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The consequences of this secondary contradiction included the following regulative behaviors: 1) soliciting help from his mother and sister when he was working on his papers, 2) use of dictionaries, and 3) copying challenging words and sentences on paper with corresponding translations for memorization during his free time. He also occasionally read online resources about critical thinking in Persian. It helped him to make connections between the ideas discussed in the course articles written in English.

Guide for analysis papers versus Shahin's objects.

According to my interpretation, the Guide for Analysis Papers belonged to the instruments corner of Shahin's activity because he used it to facilitate the process of writing his analysis papers. This instrument had some drawbacks which resulted in disturbances. There is not much evidence for this claim because he only submitted one revision of his draft paper. However, there is a pattern in the data that allows for tentative identification of this secondary contradiction. In the draft of his first analysis paper, Shahin received five comments from his instructor based on the Guide for analysis papers. He attempted to address all of them except for one that asked him to add his own reflections on the article. Of the four comments that he addressed, only two were corrected according to his instructor's expectations and the guide. In his final paper, he left the following note (interview, May 14, 2008):

Dear teacher. I read your feedback carefully and it was very helpful for me. I try to improve my assignment but I couldn't change it so much. Please help me to get best learning from this article. I really wait for your feedback

He made a conscientious effort to revise his paper, but he realized that there were gaps. In one of the interviews, he alluded to the fact that the guide should have been designed better, "If guidance [guide] explained more for us, it would be helpful to us... or have it a conversation before that assignment because we have many questions and want

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to ask them," (interview, May 26, 2008). His reference to the Guide for analysis papers in this statement is clear. He consistently referred to it as *guidance.*

There was no evidence of regulative behaviors that would have come about as a result of this contradiction. However, it is possible to identify a negative consequence of this contradiction in that it inhibited the transformation of his object of intellectual self-improvement, which in this course was critical thinking. It is not clear how this contradiction could have affected his object of learning EFL.

Due dates versus objects.

This secondary contradiction was by far the strongest one in Shahin's activity systems. It was present at the beginning of the course when we had our first interview, "I try to [do] my assignments on the right time. I try to do my assignments on time. It's very hard," (interview, May 26, 2008). This concern was one of strongest themes in our interviews, and it increased as the course progressed. As I mentioned above, his draft for the second paper lost its quality due to the lack of time, which he himself admitted. This was his last paper he submitted. Half-way through the semester, he started a teaching job at a private university, which further aggravated this contradiction. In our last interview, he reflected on his experience in this and other BIHE courses (interview, August 27, 2008):

I think [I passed] four or five courses [out of seven]. I have my job. I must continue my job because I have to support the network in the companies I work. But I must stop teaching. It takes so much time.

Shahin attempted to resolve this contradiction by introducing innovative solutions to facilitate his course-related actions at his work (interview, July 17, 2008):

I put [divide] my article into five parts and read it in my free time, but it's difficult because I forget. ...I'm there to work, and sometimes I have to stop reading and go to another work, go to explain [something] to my friend. And sometimes my manager want me to do a task. And I must stop reading and do my job. It's the cause of the

breaks of the articles in several parts.

He also hand-wrote his analysis papers for Modules 3 and 4. I tentatively attribute this change of behavior to his attempts to resolve the secondary contradiction between due dates and his objects.

Despite Shahin's effort to resolve this contradiction, it had a major negative consequence on both of the objects in that he was not able to engage in course-related actions. This inhibited the transformation of his objects.

Rules versus Shahin's objects.

The final secondary contradiction was between Shahin's objects and the forum grading rubric as a rule in his activity systems. In the discussion of the primary contradiction in the rules, Shahin had a strong orientation towards the use value of rules. Because the rules did not provide any *useful* benefits, he resisted participating with them. At the secondary level, this contradiction conflicts with Shahin's objects. Had it not been for the presence of his objects this secondary contradiction would not have existed.

As the data show, the consequence was negative. Shahin was not willing to seek help from his instructor through forums, which possibly interfered with the successful transformation of Shahin's objects of intellectual self-improvement and EFL learning. Potentially, this contradiction could also have shifted Shahin's orientation in the primary contradictions of his objects from use value to exchange value. He explicitly stated this grade orientation in his actions, "If I must do it, then I do it. If it's optional, then I don't do it," (interview, July 17, 2008). It is impossible to distinguish which of these consequences were present in which of Shahin's two objects. Because this contradiction affected both objects, I presume its consequences likewise apply to both objects as well.

Table 23 provides a summary of the secondary contradictions and their consequences in Shahin's activity systems.

Table 23

Secondary Contradictions in Shahin's Activity Systems

	Consequences in activity systems	
Contradictions	Intellectual self-improvement	Improving EFL
Insufficient EFL (instrument) vs. object	**Use value orientation** - Use of dictionaries - Seeking help from mother and sister - Copying words and sentences with their translations on paper for memorization - Reading additional sources about critical thinking in Farsi - Presumably improved understanding of critical thinking and improved EFL	Theoretically no contradictions
Guide for Analysis Papers (instrument) vs. objects	No follow-up actions, hence weakened transformation of the object	No evidence
Due dates (rules) vs. objects	**Use value orientation** - Splitting articles into smaller sections and reading them during	**Use value orientation** - Reduced amount of time spent on analysis papers

	breaks at work	- Presumably decreased
	- Hand-writing his analysis papers	transformation of object due to
	at work	lost opportunity to engage with
	- Reduced amount of time spent on	the assignments for longer time
	analysis papers	
	- Presumably decreased	
	transformation of object due to lost	
	opportunity to engage with the	
	assignments for longer time	
Inadequacy of forum grading rubric (rule) vs. object	**Use value orientation**	**Use value orientation**
	- decreased interaction with his	- decreased interaction with his
	instructor and classmates	instructor and classmates
	- Presumably decreased	- Presumably decreased
	transformation of object due to lost	transformation of object due to
	opportunity to engage with his	lost opportunity to engage with
	instructor and classmates	his instructor and classmates
	- Potentially, change of orientation	- Potentially, change of
	from use value to exchange value	orientation from use value to
	in the primary contradiction of the	exchange value in the primary
	object	contradiction of the object

Quaternary Contradictions in Shahin's Activity Systems

Shahin's work activities versus his course activities.

From the discussion above, it is obvious that the secondary contradiction between the due dates and Shahin's objects came as a result of the quaternary contradiction stemming from his work activities. He had at least three such activities: his job as a network specialist,

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his Microsoft certification course, and his teaching job at a private university that he undertook later in the semester.

BIHE administration versus Shahin's course activities.

Due to Shahin's challenges with English, some of his ideas were obscured. This quaternary contradiction is one such finding that was difficult to identify in the data. Here's an example of his statement regarding this contradiction stemming from the BIHE system, and how he changed his attitude towards BIHE after its transition to the online mode of instruction (interview, August 27, 2008):

BIHE it was my top because I learned many things in it, but after online I think it decrease. I think BIHE is after my job and other studying... because I don't like to learn by my computer. I like to go see my classmates and friends and visit my professors. ... It's my personality. I like to meet new people. ...It's very hard for BIHE. They do their best, and sometimes they fail because it's experience of online education. It creates many problems. It's hard for them.

While Shahin underlines his personal preference for face-to-face instruction, he also makes it clear that it is not simply the mode of instruction. The quality of instruction changed. Despite this contradiction his attitude towards BIHE remained positive, "I love BIHE even after online," (interview, August 27, 2008).

In this particularly course, this quaternary contradiction seems to have caused a secondary contradiction between the due dates and his objects in the course (interview, May 26, 2008).

We haven't a unique system of education. It's very hard for us. Sometime ... we haven't enough time to do. ... Sometimes we must many different projects, and it's very hard for us. I think we must establish unique university that manage better, and all courses do their job in unique rules.

He linked the BIHE system to the time pressure several other times. It could be due to his overload at work, but it could also be due to the lack of smooth administration of other BIHE courses, similar to what Nazanin mentioned. Therefore, my conclusion of this consequence in the form of the secondary contradiction between due dates and Shahin's objects is tentative.

Friend's illness versus Shahin's course activities.

Finally, Shahin's friendship activity apparently caused the secondary contradiction between the due dates in the course and his objects. He mentioned his friend in two different interviews. He also sent me a message via Moodle (interview, June 17, 2008):

> I challenge with many problem and one of my friend have hard illness and i try to help him. but after midterm i try to cover all assignment and i upload them 3 or 4 days later. i am so sorry.

This quaternary contradiction lasted at least for one month. He chose not to discuss it any more. However, according to him, his friend's illness impacted his ability to complete his assignments.

Table 24

Quaternary Contradictions in Shahin's Activity Systems

	Consequences in activity systems	
Contradictions	Intellectual self-improvement	Improving EFL
Shahin's work activities vs. his course activities	- Secondary contradiction between due dates (rules) and object of intellectual self-improvement	- Secondary contradiction between due dates (rules) and object of improving EFL
BIHE	- Secondary contradiction	- Secondary contradiction

administration	between due dates (rules)	between due dates (rules) and
vs. Shahin's	and object of intellectual self-	object of improving EFL
course activities	improvement	
Shahin's	- Secondary contradiction	- Secondary contradiction
friendship activity	between due dates (rules)	between due dates (rules) and
vs. his course	and object of intellectual self-	object of improving EFL
activities	improvement	

Summary of Shahin's contradictions and consequences.

Shahin's primary contradictions in the object of improving EFL generated at least two regulative behaviors: copying translations of words and sentences from articles on paper for memorization and seeking help from his sister and mother. His primary contradiction in the object of self-improvement produced a number of secondary contradictions: 1) insufficient EFL (instrument), 2) the Guide for Analysis Papers (instrument), 3) due dates (rules), and 4) inefficiency of forums (instrument). The primary contradictions in the technological instruments had the nature of use and exchange value. None of these contradictions caused any visible consequences.

Shahin's secondary contradiction between insufficient EFL (instrument) and his object of intellectual self-development had positive consequences in the form of frequent use of dictionaries, seeking help from his sister and mother, copying and translating new words and sentences on paper for memorization, reading additional subject-matter resources in Farsi, which presumably facilitated the transformation of his objects of intellectual self-improvement and learning EFL.
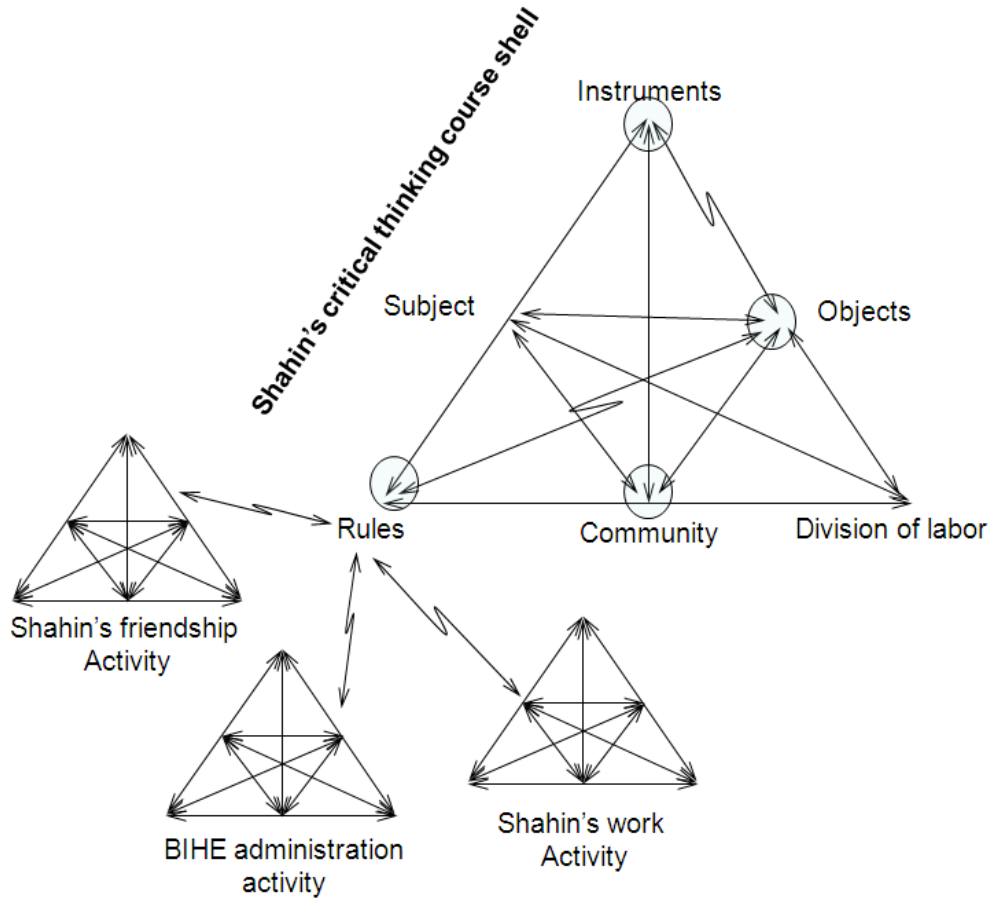
Figure 27. Contradictions in Shahin's critical thinking shell.

The secondary contradiction between the Guide for Analysis Papers and Shahin's object of intellectual self-improvement did not produce any visible consequences possibly because he chose to ignore it. Without resolution, this contradiction impeded the transformation of his object of intellectual self-improvement.

The secondary contradiction between the due dates (rule) and Shahin's objects produced two regulative behaviors: hand-writing analysis papers and splitting articles into smaller parts in order to read them during short breaks at work. Despite these attempts, this contradiction had major negative consequences on both objects. He had to decrease his involvement with the assignments, which interfered with the transformation of both objects.

The secondary contradiction between forum grading rubric (rule) and Shahin's objects produced negative consequences because he chose not to resolve this contradiction, and it possibly affected the transformation of both objects due to the lack of interaction with his instructor and classmates.

Finally, Shahin's quaternary contradictions between his course-related objects and: 1) his work activity, 2) friendship activity, and 3) BIHE administration activity caused a secondary contradiction between the due dates and his objects in the course.

Amir

Amir's Profile

Amir, 19, was one of the youngest participants in the study. He was in his second semester studying biology. According to the background survey, he chose this major because of his personal interest in natural life. His father was a doctor, which may have had some influence on Amir's interests too.

Amir withdrew from the course, or perhaps from BIHE, in the first half of the semester. I was able to talk to him only once. He left an impression of being an ambitious young man. I would not be surprised if he withdrew from BIHE and moved to the U.S. or another country to continue his higher education. He shared his thoughts openly and somewhat proudly. I thought he was a typical young man of his age who was very intelligent and was never shy to demonstrate it. At the same time, he was obliging. He immediately responded to my request to take note of his actions during his work on the course assignments. After he withdrew, he sent me an email informing me of his decision and added notes that he took while he was working on his last analysis paper.

An interesting fact about Amir is that he spent a few years of his childhood in the United States (interview, May 26, 2008):

I went to American when I was nine, and then we stayed there a year. Then we came

back to Iran, and then after three or four years, I don't exactly remember, we came

back. It's sort of vaccination. You have to vaccine more than once to prove your

immunity. It was sort of like that. I went there. I learned a little English, and just when I

was forgetting it, I went there again, so I think that's the reason I can speak it right now.

He managed to maintain his English since then. He spoke fluently and confidently, and

his English contained many colloquialisms. All of his family members spoke English. His

mother had lived in the United Kingdom. He had two sisters who moved to the United

States. This experience shaped his identity accordingly, which became manifested in the

way he constructed his activity system in the course.

Amir's Activity System

Looking at Amir's limited data, it was challenging to identify his central activity system

that emerged in the course shell. There was no evidence of him striving to grasp the subject

matter or even English. He did not attempt to satisfy his instructor either, or else his

attempts would have been deemed unsuccessful too often. Yet, he was oriented towards

an object that kept escaping me until I ran into his own definition of his object in the

interview, "I'm not usually this persistent in all the subjects, but in English, because I have

self-esteem," (interview, May 26, 2008). If Amir did have an object in this course, it was

maintaining his self-esteem of a competent English user.

Amir indeed had a strong identity as a proficient user of English. One could say it was

a matter of maintaining his English, not improving it, "I don't self-study, but I try to keep my

knowledge from drifting away by reading books and this sort of stuff," (interview, May 26,

2008). On the other hand, it may be an overstatement to say he was no longer interested in

improving his English. In his response to my question about grades, he said the following

(interview, May 26, 2008):

Actually, I don't really pay much attention to the grade. I don't know. I don't think she'd

[his instructor] do anything unfair. ... The only purpose of grading is to understand my paper was weak or what. It wouldn't help to keep bargaining about the grade, at least in English. In other subjects, I do that too [laughs] but in English I don't do that. I don't exactly know. Maybe because I never need a good grade badly in English, but maybe because I'm more interested in the learning something than getting a grade.

Amir seemed to have recognized that there was room for improvement, but he was never seriously challenged. There was no need for improvement as such. Therefore, he must have shifted his motive to ensuring that his English did meet the expectations of those who set the standards in his environment, and whenever there was a gap, he made effort to close it. In this sense, Amir was trying to maintain his self-esteem of a competent English user. The following excerpt demonstrates that sometimes his self-esteem was jeopardized, and then he had to exercise actions to transform his object (interview, May 26, 2008):

I remember the first time I saw it [the first article], "Oh, it's going to be easy. I passed EFL 103." And then I started to read [laughs], and everything changed... The first assignment was very very frightening. I don't understand the meaning for most of the word. ...The mental effect was so high that I decided not to look at it that day and started working on it tomorrow. ...But what was disturbing more is my hope, mental image of myself. I thought I was invincible. Nobody can beat me in English, and stuff. But it changed....it took me like four sessions.... I wrote the assignment and sent it, and I knew it wasn't anything good, and I expected instructor to like get mad.

Amir's activity system of maintaining his self-image as a competent English user had similar elements because it manifested itself in the shell of the course. His mediating instruments included his laptop with installed dictionaries and Encyclopedia Britannica. He had a dial-up Internet connection, and he occasionally used Google. Of the three formats of the course articles, he preferred the html version. He praised Microsoft Word because of the facilities it afforded to him, such as copying and pasting text or spell-checking. He

admitted that he did not use the Guide for Analysis Papers because he preferred to ask his instructor for guidance.

In terms of division of labor, his instructor would challenge him with her feedback, and he would respond to her to the extent that maintained his self-esteem. He also asked questions, and his instructor would provide guidance.

Amir had a laid-back attitude towards the rules of his activity system. Nevertheless, they were there, and sometimes they clashed with his preferences. He was aware of the due dates, and submitted all of his papers including drafts on time, except for one draft that arrived an hour late. However, he admitted that he did not rely on the Guide for Analysis Papers. He made an impression that he did not follow the grading rubrics either. Instead he relied on the feedback from his instructor, "I'd rather learn it by the instructor telling me, ... and if I can't do that, then I that's my way of thinking," (interview, May 26, 2008).

Instruments:
Moodle, dictionaries, Britannica, Google, dial-up Internet
Articles in html version
Assignments

Subject:
Amir

Object:
Maintaining self-esteem of
a competent English user

Rules:
-due dates
- forum grading rubric
- analysis paper grading rubric

Community:
Instructor

Division of labor:
- Amir completes assignments
- Instructor challenges Amir with feedback
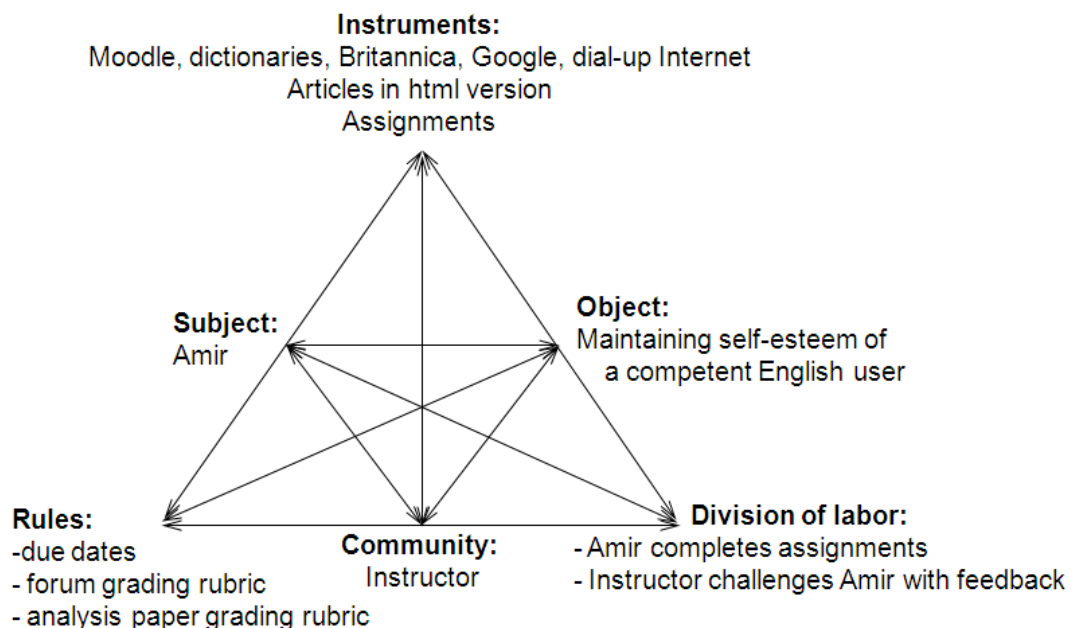
Figure 28. Amir's central activity systems in the course shell.

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In terms of Amir's community, there is little if any evidence that classmates were part of it. He never mentioned his classmates in our interview, except once in reference to a pre-writing activity, "nobody actually takes part in it. Usually, it's empty. It's a ghost town, you know," (interview, May 26, 2008). His participation in the other forums was minimal too. Therefore, his community consisted of his instructor only.

Amir's instructor was an American ESL teacher with extensive experience teaching a variety of classes in a variety of settings. She also taught English content-based courses with a focus on philosophy for college bound-students. Content-based instruction was her professional interest, and this is one of the reasons she volunteered to teach this course. She also had much experience developing and teaching other online EFL courses for BIHE. In terms of feedback, she prioritized content because of the nature of the course. She mostly relied on the Guide for Analysis Papers from which to provide feedback to her students. She did provide language-related feedback too, but that was secondary after content. She considered spelling errors inappropriate at this level of English proficiency and was sensitive to them.
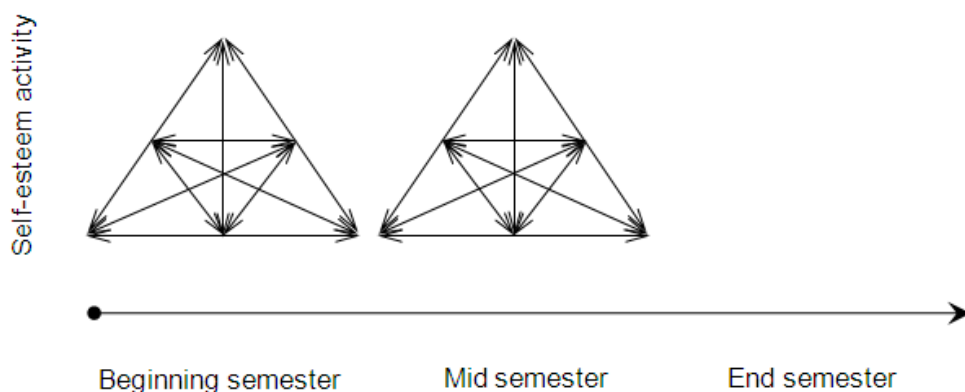
Figure 29. Historicity of Amir's activity systems in the course.

Figure 29 illustrates Amir's activity system and how it progressed while he was taking the course. Unfortunately, it was impossible to trace Amir's object of maintaining self-esteem of a competent English user throughout the whole semester. It appears that it remained stable because his instructor challenged him with content-related comments, and of the three of his analysis papers, two received 4/6 points and one 5/6 points. Thus, according to this interpretation, his actions were constantly charged with the need to transform his self-esteem object.

Amir's Contradictions and Their Consequences

Primary Contradictions in Amir's Activity Systems

Primary contradiction in the object.

Much like Azad's object of criticism, Azita's object of maintaining a good self-image, and Noushin's object of socializing, Amir's object of maintaining his self-esteem as an English user had the undefined nature of the primary contradiction. However, being an object, it had to be transformed, which caused several secondary contradictions between his object and: 1) insufficient English (instrument), 2) Guide for Analysis Papers (rule), and 3) Internet (instrument).

Primary contradiction in technological instruments.

The primary contradiction in technological instruments was the same as with the other participants. Amir had to download his CD materials from Moodle because his package arrived late. Once this disturbance was resolved, no others emerged in respect to the CD materials. His Internet connection, however, caused visible disturbances. Because he had a dial-up connection, he was not able to use Skype freely. This was one of the reasons he preferred not to deal with conference calls, "A few moths ago it was almost impossible. We tried using Skype that we're using now with [instructor's name] in EFL 103, and didn't work.

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It has become better now... I think I need DSL," (personal communication, May 26, 2008). The use and exchange value contradiction played out clearly in Amir's case. He chose to pay less for the Internet connection, and this caused the secondary contradiction between the Internet as an instrument and his object.

Table 25 summarizes the primary contradictions and their consequences in Amir's activity system.

Table 25

Primary Contradictions in Amir's Activity Systems

Contradictions	Consequences in the activity system
Undefined nature of primary contradiction	Secondary contradictions between the object and: 1) insufficient English (instrument), 2) Guide for Analysis Papers (rule), and 3) Internet (instrument).
Use and exchange value in Internet (instrument)	Secondary contradiction between Internet (internet) and Amir's object

Secondary Contradictions in Amir's Activity System

Insufficient EFL versus Amir's object.

This course did challenge Amir's beliefs about his English proficiency. The first article in the course was particularly instrumental in this regard. He realized that sometimes his English was not sufficient and this fact created a contradiction with his object of self-esteem (interview, May 26, 2008):

My biggest problem was that I extracted the meaning, and then I had to find out what that meaning was trying to say. When you look a dictionary, ... it doesn't always say

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clearly what you're looking ... In that meaning there might be another word you don't know too. And then get that word and mix it all together, and in the process of doing it it's hard. But what was disturbing more is my hope, mental image of myself. I thought I was invincible. Nobody can beat me in English, and stuff.

His explicit references to the disturbances due to vocabulary are one source of evidence. Another source was the instructor's language-related feedback. In the total of three papers, Amir received 13 grammar-, vocabulary-, and mechanics-related comments. Amir fixed eight of them and left five unaddressed. His instructor did not have any insights why Amir chose not to correct such simple errors as the referent pronoun *it* or part of speech for *Greece.* In light of Amir's object, however, such behavior becomes obvious. According to this interpretation, he corrected errors to the extent that satisfied his self-esteem as a competent English user. Those were minor errors, rather mistakes, slips, which he must have not considered serious. This interpretation was not confirmed with Amir; therefore, it is not conclusive.

This contradiction had some beneficial consequences for Amir's object and presumably his English and even his understanding of critical thinking. He engaged in active reading, use of glossed vocabulary items, dictionaries, encyclopedias, and occasional googling.

Guide for analysis papers versus Amir's subject.

Amir explicitly said in the interview that he was not willing to study the Guide for Analysis Papers because "that's [his] way of thinking," (interview, May 26, 2008). He preferred to rely on the feedback from his instructor. As a rule, the guide did mediate Amir's actions by creating disturbances. These disturbances were introduced by his instructor. Of the eight comments that his instructor provided on Amir's three drafts, he successfully addressed only three. The others were either dismissed or partly addressed. This is an example of his instructor's follow-up comment in one of the final papers (Analysis Paper 2, May 17, 2008):

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You have reported on the information presented in the article. You have discussed the implications of the article. You have a minimal amount of reflection. I do not see a discussion of the author's purpose or the questions he answered in the article. In many ways, this is a report, not an analysis. I hope you will look at the sample analysis paper as you are working on the paper for Module 3.

Amir did contact his instructor to resolve this contradiction, "Hi, I think my definition of an analyzes is different from what it should be. Isn`t analyze a type of report that talks about the strong or weak points of something? Can you help me by mentioning the differences?" (mail communication, May 26, 2008). He admitted the presence of this contradiction in the interview too.

From the above said, we can tell that this contradiction entailed some remedial actions on the part of Amir. However, apparently because of his personal preference not to study the Guide for Analysis Papers, he was not able to follow through on his instructor's feedback. I maintain that due to the lack of resolutions, the consequences of this secondary contradiction were negative. In the interview, he explicitly said that he was confused about the nature of the analysis papers, which serves a piece of evidence for the missing resolution of this contradiction.

Internet versus Amir's object.

The final secondary contradiction that emerged in Amir's data is due to the poor Internet connection. It originated from the primary contradiction of use and exchange value in the instrument of Internet. He mentioned it on several occasions. His first indication on this contradiction came from the background survey where he shared his previous experience with Internet-based voice application, "we had unsuccsesful attempts on skype so our group turned to the phone bridge," (internet, April 25, 2008). Because he did not express a particular interest in having a conference call with his instructor in this course, this contradiction was not strongly present in this course, if at all. However, potentially it

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was there and, had he chosen to opt for a call during the rest of the semester, this contradiction would have become manifest again. Otherwise, it did not produce any visible consequences.

Table 26 provides a summary of Amir's secondary contradictions and their consequences.

Table 26

Secondary Contradictions in Amir's Activity Systems

Contradictions	Consequences in the activity system
Insufficient EFL versus Amir's object	- active reading
	- use of glossed vocabulary items, dictionaries, encyclopedias
	- occasional googling
	- partial correction of errors in papers
	- transformation of Amir's self-esteem object
Guide for Analysis Papers versus Amir's personal preference (subject)	- clarifying messages to the instructor
	- partial correction of errors in papers
	- presumably continued lack of transformation of the object
Poor Internet versus Amir's object	- no evidence

Summary of Amir's contradictions and consequences.

Perhaps, due to the limited data on Amir, only primary and secondary contradictions were identified in his activity system. The only object that Amir had in this course was that of maintaining a self-esteem as a comptent English user, which had the undefinfed nature of a primary contradiction. It caused secondary contradictions between this object and: 1) insufficient English (instrument), 2) Guide for Analysis Papers (rule), and 3) Internet (instrument). The primary contradictions in the technological instruments had the nature of use and exchange value. This contradiction could have caused a potential secondary contradiction between poor Internet (instrument) and his object.

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There were three secondary contradictions: 1) between insufficient EFL (instrument) and Amir's object, 2) between the Guide for Analysis Papers (rule) and Amir's resistance to referencing to it (subject), and 3) between Internet (instrument) and Amir's object. The first two contradictions yielded some regulative behaviors that transformed Amir's object of self-esteem and presumably enhanced his improvement of English and understanding of critical thinking: active reading, use of glossed vocabulary items, dictionaries, encyclopedias, occasional googling, sending clarifying messages to the instructor. These contradictions, however, also resulted in partial remedial actions. Amir tended not to correct all the errors indicated by the instructor. He also was never able to resolve the contradiction with the Guide for Analysis Papers.
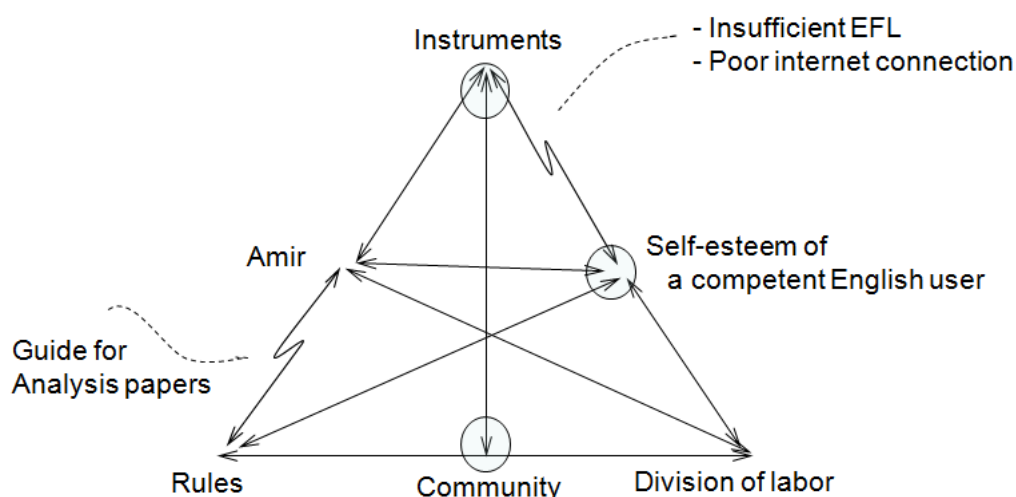
Figure 30. Contradictions in Amir's activity system of self-esteem.

Conclusion to Chapter Four

Chapter Four discussed the results of the study. The following chapter provides a synthesis of these results in light of the research questions and a following discussion of implications, significance, and theoretical issues pertaining to the study.

CHAPTER FIVE: DISCUSSION AND IMPLICATIONS

Introduction to Chapter Five

This final chapter starts with a synthesis of the results in light of the research questions. The bulk of the chapter is dedicated to the reflection of these findings. I first, discuss the significance of the study. Then, I revisit the original purpose of the study, and how the results contributed to addressing this purpose. Further, I highlight several pedagogical implications and theoretical issues that emerged in the process of data collection and analysis. Next, I discuss future directions based on the findings. The chapter concludes with a reflection on the activity systems in schooling and the nature of primary contradictions.

Summary of the Results

The following are the guiding questions in this study:

1. What types of contradictions arise in the central activity systems of individual learners of the target course?

    1.1. What primary contradictions arise in the central activity systems of learners in the target course?

    1.2. What secondary contradictions arise in the central activity systems of learners in the target course?

    1.3. What tertiary contradictions arise in the central activity systems of learners in the target course?

1.4. What quaternary contradictions arise in the central activity systems of learners in the target course?

2. What are the consequences of the identified contradictions?

    2.1. What are the consequences of the identified primary contradictions?

    2.2. What are the consequences of the identified secondary contradictions?

    2.3. What are the consequences of the identified tertiary contradictions?

    2.4. What are the consequences of the identified quaternary contradictions?

What follows next is the synthesis of these research questions starting from the participants objects that defined the activity systems of interest. Further, I discuss each level of contradictions and their consequences.

Participants' Objects

One general conclusion one can draw from the findings of the six cases is that all participants had multiple activity systems in their course shells, except for one person who only had one. The most obvious pattern is the objects of EFL and critical thinking. There were three participants who had either of these two objects. Another two participants had a more general object of intellectual self-development that subsumed either EFL or critical thinking learning.

Another category of objects can be defined as personal psychological need-oriented objects. There were a total of four participants who had four different objects of this category: maintaining self-image, maintaining self-esteem as a competent English user, engaging in criticism, and socializing. While this category of objects may stand out as unusual in the context of the course, they match the theoretical understanding of objects. To recall Leont'ev's (1978) discussion of the nature of human activity, it comes into existence when a subject finds an object that meets his or her needs. Thus, the need state

of the subject is fundamental to the formation and transformation of the object, which is what transpired in the case of the four non-academic objects above.

Primary Contradictions and Their Consequences

Related to the above, most objects had the nature of use and exchange value, and this consistently coincided with academic-oriented objects, such as improving EFL, learning critical thinking, or intellectual self-improvement. The participants had different orientations in their primary contradictions. Most participants shifted from being use value-oriented to exchange value-oriented. There was only one student who changed her orientation from exchange value to use value, but then she shifted back to the exchange value at the end of the semester. Otherwise, reversing this shift from exchange to use orientation was rare. On the other hand, there was one participant who exhibited a stable use value-orientation and another one who remained mostly exchange value-oriented.

As Table 21 shows, three kinds of primary contradictions were addressed in this study: within the objects, technological instruments, and community. Among those, some object contradictions had the nature of use and exchange value, while the others had an unidentified nature. Theoretically, it was impossible to identify the use and exchange value force in them. The contradictions within the technological instruments and students as community also had a use and exchange value. All primary contradictions led to secondary contradictions between that element (e.g., object, instrument, or community) and another element of the activity system.

Table 27

Summary of Primary Contradictions and Their Consequences

Primary contradictions	Consequences
	Use versus exchange value nature
Object: Improving EFL	Secondary contradictions between the object and other elements of the activity system • Use value -> more engagement • Exchange value -> less engagement
Object: Learning critical thinking	Secondary contradictions between the object and other elements of the activity system • Use value -> more engagement • Exchange value -> less engagement
Object: Intellectual self-improvement	Secondary contradictions between the object and other elements of the activity system • Use value -> more engagement • Exchange value -> less engagement
Object: Being a Bahá'í	Secondary contradictions between the object and other elements of the activity system • No identified differences between use and exchange value orientation
Instruments: In-house	• No visible consequences perhaps due to good

produced CDs, Internet, Moodle	quality of low-exchange value instruments (CDs & Moodle)
	• Secondary contradictions between Internet and students' objects
Community: Classmates	• Secondary contradiction of rule (participation in forums) vs. object

Unidentified Nature

Object: Maintaining the self-esteem of a competent English user	• Secondary contradictions between the object and other elements of the activity system
Object: Maintaining a good self-image	• Secondary contradictions between the object and other elements of the activity system
Object: Socializing	• Secondary contradictions between the object and other elements of the activity system

It is interesting to note that the course encouraged exchange-orientedness in the participants. Those who resisted this tendency risked failing the course. Yet, paradoxically exchange orientedness in the primary contradictions of the participants' objects had less positive consequences for learning. Such orientation tended to reduce the amount of engagement with the course materials and compromised the transformation of the objects oriented towards real-life use. Practically speaking, one may conclude that grades tend to dampen the students' genuine interest in learning. On the other hand, this relationship is not clearly established. It is more feasible to conclude that grades replace the function of a

genuine interest in learning when students face secondary contradictions because of the inadequate instruments or external activities and resulting conflicts with the due dates.

Another finding worth mentioning is that the orientation in the primary contradiction of the *object* sometimes spread to the same orientation of the other elements of the activity. For example, when a participant had an exchange value orientation to learning (i.e. for the sake of the grade), such orientation would spread to the community and rules elements of the activity system. Simply put, a grade orientation towards learning promoted individualistic learners who bend to the rules, such as a grading policy, and become regulated by them. The data provided this evidence only for three elements of the activity system: community, rules, and instruments. The latter did not seem to be affected by the orientation in the object possibly because these instruments were obvious commodities, such as Internet and content management systems.

Secondary Contradictions and Their Consequences

Engeström (1987) discusses mostly secondary contradictions in activity systems because they are the potential engines for growth. This study confirmed Engeström's argument. All the primary and quaternary contradictions inevitably led to secondary contradictions. This course produced a number of consistent secondary contradictions. First and foremost is the contradiction between the insufficient EFL proficiency of the participants and their objects. All six participants had this contradiction, and it resulted in a number of anticipated and innovative solutions. The participants actively used glossaries that came with the course articles. They used their own dictionaries and encyclopedias. They re-read the articles up to five times. Many of them sought help from their family members, friends, classmates, and instructors. Among other innovative solutions were translating the articles into Farsi, translating unfamiliar words and sentences on paper and memorizing them. It is

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interesting to note that the participants with low English proficiency used such translation solutions and not those with higher English proficiency. Regardless whether the participants had use or exchange value orientation to their objects, they all engaged very actively in the course materials in order to resolve this contradiction. On the other hand, this contradiction also resulted in reduced transformation of some objects in the form of participants' frustration. This was particularly the case with the first article in the course.

Another common secondary contradiction is between the Guide for Analysis Papers and students' object. Only in one case, did the participant have the guide vs. subject contradiction due to his personal resistance to use this document. This secondary contradiction generated a few solutions such as asking the instructor for help or re-reading the Guide several times. However, a common consequence of this contradiction was abandonment of any resolutions, which often led to students' lower grades. I attribute this contradiction to a weakness in the course design.

Due dates and the students' objects was the next most typical contradiction. In most cases this contradiction was resolved by the instructors who adjusted the rule and did not penalize the students for late submissions. However, because this secondary contradiction was primarily caused by quaternary contradictions that could not be negotiated and resolved, their consequences were drastic. These consequences always caused considerable weakening of the object transformations, which manifested itself in the participants' frustration and diminished quality of work. It also resulted in the shift of the orientation from use to exchange value.

The other typical secondary contradiction was between the instructor's content expectations and the participants' objects. It resulted either in further engagement in the readings, or the abandonment of any solutions which normally resulted in the lowering of the grades.

Three participants had a secondary contradiction between the poor Internet connection and their objects. More often than not this contradiction was caused by the quaternary contradictions coming from the Internet provider activities. Sometimes it was combined with the primary contradiction between use and exchange value of Internet connection. This contradiction was resolved by a reduced use of Internet which in turn negatively affected the transformation of the participants' objects.

A few students experienced contradictions with distance technologies as instruments. Asynchronous means of communication such as forums and email were not appealing because of the missing immediacy of responses. Synchronous means of communication, such as Skype, Yahoo! Messenger, or the phone bridge were not satisfactory because of the poor Internet connection and/or inflexibility with scheduling the calls. The data show that this contradiction had only negative consequences in the form of a reduced engagement in the course assignments and frustration.

The remaining secondary contradictions were not as common among many participants. One of them is the contradiction between the lack of familiarity with the course syllabus, as the rule, and the students' object. This may be a cultural or a personal custom not to pay attention to the expectations of the course and instead rely on the guidance from the instructor as needed. This contradiction sometimes did not have any consequences, for example, in the case with the due dates that many instructors decided not to enforce through grade penalties. Ignorance of the syllabus also resulted in losing grades on assignments that were required and gaining extra points on assignments that were optional.

There was also a secondary contradiction between classmates as community and the subjects' objects. Some participants were oriented towards the use value of their objects and sought genuine interaction with their classmates. The findings on the consequences

are not conclusive, but there are some indications that this contradiction resulted in the shift from use to exchange value orientation.

One unique secondary contradiction was between one of the participants' personality and his instructor. These clashes, however, did not yield any empirically identifiable consequences because the instructor did not allow her personal opinions affect the quality of her feedback or grading approach.

Another secondary contradiction was also due to one of the instructors who felt unconfident using Skype for the optional conference calls with her students. This contradiction resulted in the students' missing an opportunity to better engage in the course assignments for the sake of the use value of their objects and to earn extra points for the exchange value-oriented objects.

One of the students experienced a strong contradiction between the rule of Forum Discussion #3 and her objects. Being a devoted Bahá'í, she had to defend a position of an author who attacked the Bahá'í Faith. She made a conscious decision to overcome this contradiction by studying engaging fully in the assignment as a result of which she learned much about the central beliefs of Christianity and made many posts to the forum discussion.

Another student had a secondary contradiction between the grading rubric of the forum as a rule in his activity system and his object. He was dissatisfied with the requirement to participate in the forums and chose not to do so for the rest of the semester, which negatively affected his grade and the transformation of his learning object.

Finally, there was a contradiction between one of the student's illness and her object. This contradiction negatively affected the transformation of all her objects.

Table 21 summarizes the secondary contradictions and their consequences.

Table 22

Summary of Secondary Contradictions and Their Consequences

Secondary contradictions	Consequences
Insufficient EFL (instrument) and objects of critical thinking/intellectual self-improvement	• Using glossaries/dictionaries • Re-reading articles • Seeking help from family, friends, classmates, and instructors • Translating the articles into Farsi, • Translating & memorizing unfamiliar words • Frustration & potential disengagement • lower grades
Guide for Analysis Papers (instrument) and objects of critical thinking/intellectual self-improvement	• Re-reading the Guide for Analysis Papers • Seeking help from classmates and instructors • Frustration & potential disengagement • Lower grades
Due dates (rule) and objects of critical thinking/ intellectual self-improvement/EFL	• Frustration • Use value -> exchange value • Diminished quality of work
Instructor's content expectations (community) and objects	• More engagement with articles -> higher grades • Abandonment of solutions -> lower grades

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of critical thinking/intellectual self-improvement	
Poor internet (instrument) and students' objects	• Frustration, less engagement
Unfamiliarity with syllabus and students' object	• Grades: lower, higher, no difference depending on the instructor and assignment
Poor distance technologies and students' objects	• Less engagement -> lower grades
Classmates (community) and subject	• No clear evidence of consequences
Instructor (community) and subject	• No evidence of consequences
Instructor (community) and student's object	• Lower grades (missed opportunity to earn bonus points)
Problem-solution forum (rule) and student's object	• More engagement with course readings, Bahá'í and Christian literature • Higher grades
Inadequacy of forum	• Decreased interaction with the instructor and

grading rubric (rule) vs.	classmates
student's object	• Possibly use value -> exchange value
Participant's illness	• Less engagement -> lower grades
(subject) and her object	

Two Types of Consequences

A very important observation based on the findings is that secondary and perhaps other kinds of contradictions have two kinds of consequences: 1) those of missing resolutions, which are detrimental to the activity system, and 2) those of implemented resolutions. Implemented resolutions, in turn, can be of two kinds: a) those that lead to further transformation of the activity towards its use value and b) those that lead the transformation of the activity towards the exchange value, such as obtaining a decent grade. For instance, due to the lack of participation in forums, a student may chose to resolve the contradiction by adding extra posts to match the grading rubric and/or maintain his or her good self image. This is a resolution, but it is orientated towards the exchange value of the object. On the other hand, the student may raise the concern and discuss this with his or her community and if necessary with the subjects in the external rule-making activity. Assuming the involved decision-makers are interested in promoting the use value orientation in the students' activity, the rule will be changed, and this resolution of the contradiction will lead to the use-orientation of the student's activity.

Instructor Feedback as a Disturbance in Secondary Contradictions

In the analysis of data, it transpired that much of the instructors' feedback belonged to the category of facilitating disturbances rather than inhibiting disturbances. In the former

case, the participants expected the feedback and followed up on it eagerly because it facilitated the transformation of their corresponding object, be it critical thinking, EFL, or another academic-oriented object. In the latter case, the feedback was a nuisance, indeed a disturbance, usually between the participants' orientation towards the exchange value of the object (grade) and the instructor as a member of the community. However, this distinction is not easy to make due to methodology. It is impossible to identify when the student accepts the feedback as a facilitating disturbance or views it as an inhibiting disturbance standing in the way of getting a grade or another object.

Tertiary Contradictions and their Consequences

According to my interpretation, there were no tertiary contradictions in the participants' activity systems. Engeström (1987) suggests that parents and teachers often represent sources of tertiary contradictions in that they try to introduce a culturally more advanced object into the activity systems of their students. They may want to replace the students' object of having fun at school with an object of true learning. These kinds of influences were not observed in this study perhaps because of the college level setting. For this reason, the course instructors theoretically were considered part of the student participants' communities in that they had a shared interest in the latter's objects.

Quaternary Contradictions and their Consequences

There was a clear pattern of certain quaternary contradictions. One such repeated contradiction existed between three participants' course-related activity systems and their work activities. This contradiction consistently caused secondary contradictions between the due dates (rules) and the participants' objects. While this secondary contradiction resulted in isolated innovative solutions, it predominantly led to the weakening of the

participants' object transformations or to the shift from the use to the exchange value orientation.

Another emerged pattern is the quaternary contradictions between three participants' course-related activities and BIHE administration. This contradiction similar to the previous one, led to the promotion of the exchange value orientation in the students' objects. It also produced a secondary contradiction between the due dates (rule) and the students' objects, which again negatively affected the transformation of the objects.

There were two cases of quaternary contradictions between the activity of Internet providers and participants' course activities. This contradiction resulted in the secondary contradiction between Internet (instrument) and the students' object, which in turn led to the weakening of the object transformations.

Three other quaternary contradictions were single occurrences with three participants. They included a leisure activity, Bahá'í activity, and an activity that emerged as a result of a friend's illness. All these quaternary contradictions caused secondary contradictions between the students' objects and the due dates as rules in their activity systems.

Table 23 provides a summary of these quaternary contradictions and their consequences.

Table 23

Summary of Quaternary Contradictions and Their Consequences

Quaternary contradictions	Consequences
Course activities vs. work activities	• Secondary contradiction between due dates (rule) and students' objects

Course activities vs. Internet provider activity	• Secondary contradiction between internet (instrument) and students' objects
Course activities vs. BIHE administration/ system	• Secondary contradiction between due dates (rule) and students' objects
	• Use value -> exchange value
	• Secondary contradiction between due dates (rule) and students' objects
	• Secondary contradiction between due dates (rule) and students' objects
	• Secondary contradiction between due dates (rule) and students' objects

Significance of the Study

The findings of this study make some contributions to the fields of second language acquisition (SLA) and pedagogy, distance education, and to the theoretical framework of CHAT.

Of all SLA and pedagogy-related studies on content-based language instruction (CBLI), there is none that would investigate this pedagogical framework in light of CHAT despite the fact that this theoretical lens inherently matches the philosophy of CBLI. The main premise of CBLI is that language is an instrument of learning the content, and as the content is tackled, the instrument becomes improved too. This study confirmed that indeed no matter whether the participants were oriented towards improving English or any learning

at all, they all had to place EFL in the instrument corner of their activity systems. This inevitably triggered a number of regulative behaviors that transpired as a result of the inadequacy of the students' English as a mediating instrument. As much as a case study methodology can afford it, we can conclude that CBLI courses at a minimum elicit a number of regulative behaviors that are often viewed as pedagogically favorable.

The results of the study also confirmed many previous findings. For example, despite the level of students' proficiency in the target language, lack of the content background creates unbearable challenges for the students. The detrimental consequences of the lack of coordination at BIHE, unfortunately, very strongly confirmed the findings about this challenge in the literature too. The importance of linguistic support when dealing abstract subject matter is another highlighted theme in the literature. This oversight on the part of the course designers caused many disturbances for students with lower English proficiency. Along these lines, the study found that lower level students tended to rely more on their first language as a scaffolding device in grasping the new content. Perhaps this can be integrated as an optional mediating instrument for some students.

In terms of distance education (DE), this study likewise corroborates the proposal of many DE models. The six participants of this study can be well re-interpreted in terms of the three key factors that Morgan (1993) proposes in his transaction distance theory: dialogue, structure, and student-autonomy. While structure was mostly consistent across all students, the dialogue factor different from one group to another. In groups where the students had more access to their instructors, the participants exhibited less frustration. The concept of the learner autonomy was demonstrated well through Nazanin and Azad's well-orchestrated approach to solving their contradictions.

One aspect that Morgan's model seems to be missing is the contextual component, which played out very clearly in the current study. In this respect, the ecological systems

theory of Kurt Lewin and Urie Bronfenbrenner with microsystems, mesosystems, exosystems, and macrosystems is a good complement (Gibson, 1998a).

One astounding similarity in the findings comes from the study of Ramsden (Morgan, 1995), where he refers to the notion of deep versus surface learning, which corresponds to the use and exchange value orientation in this study.

Beyond the theoretical significance of this study, there is a local practice-oriented significance, which in my opinion is of paramount importance given the original purpose of the study, and this is discussed in the section that follows.

Revisiting the Purpose of the Study

At the beginning of the study, I set out to address two problems: 1) lack of information for the implementation of online content-based courses at BIHE and 2) a more theoretical issue with the lack of understanding of the nature of expansive cycles of growth in second language acquisition (SLA) in the distance content-based language instruction (CBLI) environment. In this section, I would to like address these problems in light of the findings.

Concerning BIHE, the study yielded a wealth of information about the cultural-historical nuances of this educational setting. There are tremendous secondary contradictions in BIHE students' activity systems due to the clashes with the external activity systems. These contradictions have detrimental consequences. It seems to me that BIHE as a learning activity is experiencing a number of primary contradictions between use and exchange value at the level of individual faculty and staff. According to the BIHE administrator's perspective, many of them have their own jobs, and they try to combine them with their responsibilities at BIHE (interview, August 22, 2008). In my interpretation, because BIHE traditionally has been relying on the service-orientated attitude of its local and many outside faculty and staff, there is not much time and perhaps commitment of resources left to provide quality service to the students. There may be other reasons beyond this primary

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contradiction that did not transpire in this study. The fact that the government is the source

of many of the identified secondary contradictions is undeniable. However, as an

autonomous activity that has its own clear object and a strong community, BIHE has to

devise means to overcome these contradictions sooner or later.

Given the CHAT methodology, I would like to propose a solution that is very obvious to

any Bahá'í community. The heart of Engeström's (1987, 1999a, 1999b) methodology is

identifying inner contradictions in activity systems, and promoting the expansive cycles of

growth is a *consultation*. I deliberately use this Bahá'í-inspired concept, which is not present

in Engeström's vocabulary. Indeed, consultation is unanimously perceived by any Bahá'í

community as a key to unity. In Engeström's methodology, all involved members of the

community should come together and openly discuss their disturbances. Video-recordings

of on-the-job actions are available for an insider-perspective of disturbances. The

participants are engaged in often heated discussions that are facilitated by trained

mediators whose primary goal is to identify underlying contradictions and elicit their

resolutions. In other words, resolutions are devised in collaboration and open discussion

between the subjects that experience contradictions in their everyday work actions and their

surrounding activities, such as the rule- and division-producing activities of administration,

the instrument-producing activity of related departments that produce instruments, and the

like.

From my interaction with the participants of my study, I conclude that such consultation

is missing in BIHE. Perhaps, BIHE administration could establish regular sessions where

selected representatives of students, local and outside faculty and staff could come

together and discuss the disturbances that prevent BIHE as a learning activity from further

expansion.

Regarding the second problem, the findings of this study surprised me in that they changed the direction of my investigation from focusing on the nature of expansive cycles of growth in SLA to more global, indeed, cultural-historical issues surrounding content-based online courses. This study revealed that in order to capture the cycles of growth in SLA and tap into the internalization and externalization processes, I may need to employ textual and perhaps discourse analysis. There were many disturbances in the participants' actions that were manifestations of the secondary contradiction between insufficient English as a foreign language and their objects. However, the proposed methodology and the research questions were able to capture only regulative behaviors as resolutions to disturbances, some of which became consistent and were introduced into the activity systems as mediating instruments. It was impossible to identify whether and how these regulative behaviors and the instructors' feedback affected their SLA. The participants' papers did grow more complex, at least in lexical terms due to the fact of the repeated use of certain concepts such as *perspectives, implications, purpose, information*, and the like. Some participants also integrated hedging techniques, such as *seems to be, probably*, and *perhaps*, which were part of the Guide for Analysis Papers. A more in-depth analysis of these textual and discourse features would certainly shed more light on this phenomenon. CHAT constructs will be enlightening in this kind of research because they contextualize the participants SLA on the background of their motives and contradictions. The nature of feedback as a disturbance versus as a mediating instrument may have different outcomes on SLA.

<div align="center">Pedagogical Implications</div>

To further develop the discussion above, I would like to consider a few pedagogical implications resulting from this study and directions for future research.

One overarching implication that applies to any pedagogical setting and, in particular, the distance environment is the consideration of cultural-historical contexts of the students. This has been repeatedly highlighted through a number of studies on distance education (Jegede, 2000; Gibson, 1998). However, what this study underlies is the differing understanding of the same phenomena by students and their instructors because they represent different cultural-historical perspectives. For example, the same forum discussion tool is seen dramatically differently by some BIHE students and their instructors. It transpired that for some students it is not appropriate to utilize this tool to exchange ideas with unfamiliar people or even get to know them for the first time. Another example is the differing construction of a course syllabus as a mediator of students' actions. This study revealed some indications that the students' understanding of this cultural mediator is different from that of their instructors educated in the West who placed much emphasis on the syllabus and made erroneous assumptions about the role the course syllabus played in their students' activities. Thus, before introducing mediators to students' activity systems, course designers need to tap into some underlying assumptions of those mediators in the target culture if they are to carry a mediating rather than a constraining function in the course.

Another implication is based on the emerged construct of a course shell. What transpired in this study is that some students felt constrained performing certain actions in the course, and some of the most notorious examples were the Guide for Analysis Papers, forum discussions, and due dates. These constraints tended to provoke students to perform exchange value-oriented actions. If students were given a chance to construct their own activity system to fit their needs, this would transform their objects more effectively. This idea is not new. With the advent of humanistic and constructivist views in pedagogy, students are placed in the center of the learning process. BIHE curriculum is missing this

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element perhaps due to the cultural peculiarities or the distance nature of the education. The simplest and most cost-effective solution in this situation would be establishing regular consultation sessions where students and their professor would come together to voice their concerns openly and seek solutions. This approach would eliminate the unnecessary contradictions and highlight those that are conducive to learning along with mediating elements that facilitate the solution of these contradictions.

Finally, instructor feedback had a crucial role in the study. As was mentioned earlier, feedback that emerged in this study could be categorized as either a facilitating disturbance or an inhibiting disturbance. The findings demonstrated that the former elicited more use value-oriented actions, while the latter tended to be exchange value-oriented. The nature of feedback as a disturbance in students' actions implies a two-way endeavor. The student needs to have the right object, and the instructor should provide feedback conducive to the transformation of the object.

Future Directions

One possible future direction I would like to pursue as a result of this study concerns the nature of second language acquisition as it is viewed through Vygotskian theory of cognition. The question about the nature of second language acquisition may appear trivial as it may have been addressed fully in the field. However, to me, as a researcher, this is a starting point for any further research on second language acquisition within the Vygotskian theoretical perspective. Is it about levels of linguistic attainment of the learner manifested across complexity, accuracy, and fluency (Skehan, 1998), which implies investigation of outcomes of the developmental process? If so, this runs against the epistemological assumptions of Vygotsky's theory according to which, "the only appropriate way of understanding and explaining higher, culturally organized, forms of human mental functioning" is to study "the process and not the outcome of development" (Lantolf &

Thorne, 2006, p. 28). I believe clarifying this foundational assumption is a pre-requisite to any other inquiry that I would want to undertake within Vytoskian view of cognition.

Having clarified this question, another worthwhile area of inquiry would be re-addressing the nature of second language acquisition in a content-based language course. This kind of research may or may not require discourse and textual methods of analysis depending on the assumption of language acquisition.

There is yet another possible avenue for investigation based on the above. This study demonstrated that along with a content-oriented object, some students had an object of improving EFL, and some did not. The data show that regardless whether students had the EFL object or not, they exhibited active engagement in EFL-related actions, such as use of a dictionary, translating key words or parts of the text into Farsi, re-reading the text for better comprehension, and seeking help from other people. Given this pattern, does the presence of the EFL improving object in the subject's activity system affect the language acquisition in a content-based course? In my opinion, this question is the key to understanding the processes of language acquisition of adults engaged in content-based courses. According to Leont'ev (1978), children do not have motives per se unlike adults, yet they successfully acquire languages via human interaction. Language, as a mediating instrument, becomes transformed without a conscious effort of the child subject. The findings of this kind of research may provide promising insights for language pedagogy.

Following the line of thought above, what kind of mediators promote second language acquisition in a content-based course? However much the motives of an adult learner define his or her success in language acquisition, there are other mediating circumstances that impact the processes of language acquisition. For example, from the activity theoretical perspectives, there are mediating instruments, division of labor, community, and rules. This area of inquiry could contribute to the improvement of language curriculum design.

Theoretical Issues

This research revealed a number of theoretical challenges with CHAT constructs that call for methodological considerations. They include: the placement of mediators in the activity system, a distinction between object of activity and goal of action, the nature of primary contradictions, and the nature of secondary contradictions.

Identifying Mediators in Activity Systems

The literature often presents hypothetical scenarios by which to illustrate the structure of human activity, and how its mediators (instruments, division of labor, community, and rules) are to be positioned in the system. The hunting activity of primeval humans by Leonti'ev (1981) is one such example. They elucidate the constructs, but at the same time they may mislead a researcher with their simplicity. Real human activities tend to have many uncertainties when it comes to their theoretical interpretations. In this study, the instructor's feedback is one such example. For the sake of consistency, I chose to view instructor feedback as disturbances, but I had to distinguish between those that are facilitating and inhibiting. However, one may potentially place feedback in the instrument corner of the activity if the feedback facilitates the students' transformation of their objects. It could also belong to the rule corner of the activity if the students are expected to follow up on it in order to fulfill the requirements and receive a grade they deserve. There is never a lack of such possibilities in CHAT interpretations, which may raise eyebrows of even staunch naturalistic and interpretive researchers.

Activity theorists are not oblivious to this complexity of human activity. Engeström (1987, 1999a) talks about the dynamic nature of activity by highlighting its multivoicedness, historicity, expansiveness, and interaction with neighboring activity systems. However, the literature does not bring up the complexity of decision-making when placing the different

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mediating elements in the activity system. I maintain that this complexity is due to the complexity of human activity, and not the flaw of CHAT. No matter how close a theory comes to modeling reality, when it comes to human behavior, nothing can capture its complexity with satisfactory precision. In other words, feedback could indeed belong to different mediating elements in the activity system depending on the function it fulfills in the activity. However, this has many implications for the methodology. If two researchers cannot easily agree on where in the activity system a particular mediator belongs, the research cannot proceed without risks to trustworthiness. Further, it may undermine the assumption that CHAT is a unified framework, where the language used by one researcher is understood by any other activity theorist. Perhaps, there is no such assumption, or there should not be. As an interpretive model, CHAT may serve the needs of researchers differently as long as foundational premises are aligned, and there is a consistency in the application of devised interpretations, which is what had to be done in this study.

Methodological Distinction Between Objects and Goals

The second theoretical issue concerns the distinction between actions and activity or goal and object. While the hypothetical examples of these two constructs appear to illustrate this distinction clearly, in some research settings this distinction may present serious problems. One such problematic setting is distance research. This distinction assumes a close and prolonged observation of participants in their everyday life, which was not available in this study. Making conclusions based on the participants' statements without even seeing their facial expression and without having a solid triangulation through direct observation undermine this assumption of CHAT methodology. However, these two constructs are hard to tease apart beyond a distance setting. In this study there were many times when it was unclear whether a student expressed interest and performed actions

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confirming this interest because of being oriented towards an object or a goal. Engeström (1987) talks about school-going as a host of isolated actions not oriented towards a unifying object. Perhaps, performing actions outside of the course may confirm an existence of a potential object, but how consistent should such actions be before a researcher could make a distinction between object and goal? This leads us to the same methodological concerns.

Contradictory Contradictions

Lastly, the construct of contradictions was a source of much theoretical struggle in this study.

First, the nature of primary contradictions is elusive and hardly possible to grasp methodologically. One clear assumption we can make from the literature is that this construct is based on the dialectical understanding of reality (Engeström, 1987; Ilyenkov, 1982; Wilde, 1991). There are two opposing forces that interact with each other. The contradiction between use and exchange value is the most typical in the literature, and it applied well to some cases in this study. However, there were also cases when a moving force did not seem to have a dual nature, despite Engeström's (1987) assertion, "The basic internal contradictions of human activity is its *dual existence* as the total societal production *and* as one specific production among many" (Inner contradictions of human activity). Engeström applied this definition to schooling-going activities too, and yet it does not seem to be able to interpret readily the primary nature of certain objects. Examples include the participants' motive to maintain self-image or self-esteem, and engage in criticism or socializing. Perhaps, I, as a researcher, was not able to identify their nature properly due to my personal intellectual limitations or due to time constraints that I created for myself.

The primary contradiction in the objects appeared more or less consistent when they had use and exchange value in this study. However, viewing learning as use value-oriented

(genuine interest) or exchange value-oriented (for the sake of the grade) is necessarily the same kind of contradiction as the use and exchange value in commodities. Commodities have an inherent dual nature, which indeed propels economy in the capitalist socio-economic formation. However, learning does not have an inherent dual nature of use and exchange value. People can learn for pure self-development, and no other force will impose upon them the exchange value. This distinction seems to be more of two different objects: one of pure learning and the other of getting a grade. These motives often interact, which causes polymotivation of actions (Leont'ev, 1978). For the sake of this study, I chose to apply Engeström's (1987) understanding of primary nature of objects and other elements of human activity. However, perhaps there are other ways to interpret such findings.

Further, assuming the primary contradictions within elements of the activity have use and exchange value contradiction, they still present serious challenges that may undermine consistency of interpretations. For instance, a student being affected by a lack of forum participation of his classmates may be interpreted as a primary contradiction between the use and exchange value of 1) his community (classmates), 2) instrument (forum), or 3) rules (requirement to respond to a number of classmates). Perhaps, this contradiction equally applies to all these nodes and causes the secondary contradiction between these nodes and the student's object. There is room for interpretation, and it has to be discussed among other activity theorists to determine if this construct promises worthwhile for research.

Finally, regarding secondary contradictions, this study followed the operational definition of contradictions as having a dual nature. Accordingly, secondary contradictions had to have two conflicting forces. While it appears a simple task, the actual interpretation of secondary contradictions may demand the close attention of activity theorists. For instance, if a student experiences a conflict with the due date, I chose to interpret this as a

secondary contradiction between the subject's object, such as getting a grade, and the rule of the due date. On the other hand, one could also interpret this as a conflict between the subject and the due date. The borderline is rather vague. Mwanza (2002) found a clever solution by identifying those contradictions in sub-triangles, which in this example would come out as subject-object-rule. While this resolves the methodological puzzle, it creates a rift in the theory, the assumption that a contradiction has a dual nature. If there are three elements involved in a contradiction, where does this conflict exactly occur?

Possible Solutions to Theoretical Issues

I have not been able to find answers to many of the issues discussed above. However, I would like to propose a methodological solution that may address some of these issues. Autoethnography, as a post-modernist theoretical perspective, offers an interesting approach to research. It puts the researcher in the shoes of the participant. As a result, the researcher becomes the center of his or her own inquiry. According to Goodall (2000), autoethnography is "learn[ing] who you are as a fieldworker, as a writer, and as a self" (p. 7, cited in Lincoln, 2005). I would like to propose another purpose that autoethnography could fulfill. It could help a researcher understand his or her theoretical framework and devise methodological solutions to tap into critical theoretical constructs. Being so complex, CHAT seems a good candidate for the autoethnographic approach.

CHAT requires much interpretation. Coupled with methodological challenges of inability to tap into the participants' microgenetic processes, this interpretation may lead to undermining trustworthiness of this qualitative research. Autoethnography effectively removes these methodological challenges by merging the participant with the researcher. As such, a researcher would become a subject in his or her own activity system and would have a most intimate understanding of his/her microgenetic processes, which will yield data

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that meet the rigor of naturalist research. Interpretation of these data within the CHAT framework would be a much less daunting task too. Being a subject of the activity, the researcher would immediately know whether an element of his or her activity was constraining or facilitating and accordingly whether it belongs to the corner of rules or instruments.

If I were to enhance this study with the authoethnographic methodology, I would have to put myself in a position of a language learner. Because I am interested in content-based instruction in distance education, I would seek a course that would satisfy these conditions. During the course, I would employ meta-cognitive techniques to observe my own actions and notice my thoughts and emotions. A researcher's log would become a primary instrument of data collection. Such log would detail the shifts in my orientations towards genuine learning, obtaining a grade, or perhaps other objects. My role as a researcher would force me to apply the emerging data to CHAT constructs and makes sense of the data through the theoretical lens. With this methodology there would be little room for the breaches of trustworthiness. However, I predict many a struggle with the theoretical interpretations of the data, which is critical for a beginning activity theorist.

Autoethnography could be used as a starting point for a beginning activity theorist. Having grasped the theoretical construct of CHAT through first-hand experience, he or she would be more sensitive to the experiences of his/her *other* participants, and perhaps would devise methodological instruments that would allow activity theorists to capture some of the elusive distinctions in CHAT, such as object and goal. A body of authoethnographic research conducted by a number of activity theorists could serve as a source of data for meta-analysis, the results of which could enhance both the theoretical and methodological understanding of CHAT.

On the Activity Systems in Schooling

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Because the following discussion concerns grades, I will use the concept of use and exchange value orientation for the sake of consistency. This study demonstrated how online community members in a BIHE course tend to interact with each other. Most often than not, it is brought to action due to the exchange value in its primary contradiction, with little interest in genuine discussion and collaboration. Students exchange their posts like commodities to satisfy their grade-oriented motives. Their classmates' ideas as such have little use for them.

Using CHAT as an analytical instrument provides some potential implications as to how orienting students towards a grade could be detrimental to the quality of learning. When a grade becomes students' object orientation in a class, it acquires the quality of commodity. This commodity often becomes equated to learning, which is yet another problem with assessment in modern schooling.

The presence of grades in schooling seems detrimental because activity systems of different orientations at the primary contradictions within the same shell cannot co-exist productively. For example, getting a good grade (exchange value-oriented activity) does not co-exist productively with the activity of learning EFL (use value-oriented). Use and exchange values constantly compete with each other, and from the results of this research, the exchange value always prevails. Perhaps, a pedagogical implication is to separate students' activities oriented towards use and exchange values.

What happens if there is no grade in a course? One may conclude that it effectively eliminates the grade-orientation in the students' objects. This, however, may likewise eliminate the actual object and activity itself due to the missing primary contradiction in the object. It appears that a grade becomes a surrogate of learning, a wolf in the disguise of the sheep. Unless and until the system of education as a total production activity changes its quality, the subordinated learning activity systems of schools and individual systems cannot

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change their quality. Engeström (1987) raises this concern too when he talks about a paradigm shift in education.

One possible route of this paradigm shift is removing the grade from the primary contradiction and representing learning by the artifacts produced by students. If a student learns how to write, his or her composition will be the evidence of his performance. This shift is in fact emerging, and portfolio assessment is one such obvious manifestation. Another route for this paradigm shift is creating a separate activity whose sole object will be transferring a person's performance to an assessment measure meaningful to an employer or other consumers of assessment. This trend is present too. The Educational Testing Service in the United States is an example of such as activity. Finally, I see a possible solution in placing responsibility for identifying a person's level of expertise on the actual consumers of knowledge and skills. Rather than rely on the grade, employers or graduate schools could perform an analysis of their candidates' abilities using the measures that they deem effective. This solution is also common among employers and graduate programs in countries, such as the USA.

It appears that this paradigm shift is occurring. However, unless and until the grades are removed from schooling the primary contradiction of use and exchange value will continue undermining the quality of learning.

On the other hand, removing the grade from the equation destroys the primary contradiction in a school-going setting, which is not consistent with theory. It would be interesting to investigate primary contradictions in this kind of school-going context to see whether the theory needs adjustment, or indeed a new kind of primary contradiction arise.

Nature of Primary Contradiction in Subjects

Despite much theoretical contention discussed above, the theme of primary contradictions is appealing, particularly when it comes to subjects of human activity.

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According to the ontology of CHAT, this life is driven by dialectical relationships within and among human activity systems (Engeström, 1987; Ilyenkov, 1982). Engeström (1987) says that in slave and feudal societies, the primary contradiction was based on force. To further develop his thought, the duality in these kinds of societies was between force and weakness. Those in power would subordinate those underneath them, and the latter would accept it as a given. That is how society was structured at the level of individuals, families, and nations. With the advent of capitalism, the primary contradictions assumed the dual nature of use and exchange values. Individuals, societal bodies, and nations have something to share that is not of use to them in exchange from something that is. This exchange is mutual; everyone has something that they do not need but others do, and this carries on the development of the society and individuals in this socio-economic formation.

This study addressed primary contradictions in the elements of object, instruments, and community. The primary contradiction of the subject has not been discussed yet. However, knowing the nature of this primary contradiction may shed insightful ideas on practice and theory. If by definition, a contradiction has a dual nature, what is the contradiction that drives an individual subject? Engeström (1987) defines this contradiction in a student engaged in a learning activity as a sense-maker vs. grade-maker, in that as subjects, students struggle between being oriented towards use value of learning and exchange value of learning. I would interpret this contradiction in more general terms and in very philosophical terms as a contradiction between good and evil. This is a struggle between wanting to give and having to take.

As humans, we are often inspired to do good, but doing only good to others eventually jeopardizes our comfort and existence. If we are completely disinterested while helping others, we will not have food and shelter with which to subsist. Therefore, we have to engage in *taking* as well. Being driven only by the evil side of the contradiction leads to the

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destruction of human activity too as history has demonstrated amply. This primary

contradiction in the subject does not seem to change from one socio-economic formation to

another because the question of good and evil is as old as the human history. One can

conclude that it is the other elements of human activity systems (instruments, object,

division of labor, community, and rules) that are affected by the socio-economic formation

of the society.

A question that may be of interest in the context of BIHE is what happens to an activity

system where subjects are oriented towards the good side in the primary contradiction of

themselves. When BIHE first formed as a reaction to the expulsion of Bahá'í students and

dismissal of Bahá'í faculty from universities in Iran, the Bahá'í community devised a plan to

establish their own university. Being marginalized, this university was not subordinated to

the total production of education in Iran, and as such, it broke the connection between

specific production of knowledge and skills of one institution and the total production of

knowledge and skills in Iran (Engeström, 1987). In other words, BIHE became independent

of the knowledge and skill producing activity system in Iran. As such, it was no longer

mediated by the instruments, division of labor, community, and rules of the school-going

activity in Iran. Most importantly, BIHE had to acquire a different kind of object that could

not be oriented towards the exchange value in its primary contradiction. Graduates of BIHE

would not be able to safely *exchange* their acquired knowledge and skills in the society for

the *useful* goods in the society because BIHE was and still is not an accredited university,

hence not readily recognized in the society. According to the BIHE administrator who was

involved in the establishment of BIHE, the object of their activity was to create a venue for

self-education, almost for the sake of education (interview, August 23, 2008). This kind of

school-going activity had different rules. Students did not receive grades that would

demonstrate exchangeability of their knowledge and skills in the society. They were expected to learn for the sake of learning.

The faculty and staff, as subjects of this unique school-going activity also served BIHE not in exchange for money, but for their desire to do good. The following represents a central guidance in the Bahá'í Scripture, "work done in the spirit of service is the highest form of worship" (Abdu'l-Baha, 1918, p. 83). If BIHE came into existence with this ordinance in mind, then the object of the founding staff and faculty of BIHE was to do service. This attitude does not seem to correspond to the primary good versus evil contradiction in the subject element of this activity system. I would dare to propose that if a human were to transform his or her primary contradiction of giving versus taking into that of pure service, i.e. only giving, this person would become freed of the dialectical bonds of this physical life. An implication of this change would be not seeing this life as a series of contradictions but as one whole. One could argue that this inference may have come too close to the dangerous waters of metaphysics. I would hold that science should strive to enter these dangerous waters.

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APPENDICES

Appendix A: Excerpt from Critical Thinking Course Readings

Ethics and Critical Thinking

Ethics is a discipline of philosophy which studies morality*, and seeks to determine what is right or wrong, and what is good or bad. The word "ethics" also means a person's own system of what they believe is morally right or wrong, good or bad. Systems of ethics have been developed by philosophers, such as Confucius in China and Plato in Greece; and systems of ethics have also been announced by religious leaders, such as the Buddha, Jesus and Muhammad.

Critical thinking means to use reason in a deep and meaningful way. Critical thinking involves analyzing and evaluating one's own, and others', thoughts and actions. Therefore, "ethics and critical thinking" means to analyze and evaluate one's own, and others', ethical thoughts and actions. Critical thinking aims to help us get to the truth about ethics: what truly is right or wrong? What truly is good or bad?   But ethics also needs to guide critical thinking – the word "critical" can also mean to criticize and belittle* others, to look for others' faults, to backbite*, to be negative and discouraging to others. Critical thinking can be used in an ethical way, or in an immoral, unethical way.

Deontological and Consequentialist Ethics

In the history of ethical thought, at least in the West, one of the biggest questions of ethics has been based on whether deontological ethics or consequentialist ethics are the best ethical systems. In the consequentialist approach to ethics, the results of an action determine if it was a good action or a bad action. A modern version of consequentialism is called utilitarianism – the utility (usefulness) of an action determines if it is a good or bad action. In this approach, if you have a choice between an action that will make one hundred people happy or one person happy, you should choose the action that makes one hundred people happy. Or, if you have the choice to save

one hundred people's lives by allowing one person to be killed, you should allow that one person to be killed. A common "principle" of the consequentialist approach to ethics is: the greatest good for the greatest number. The goal is to maximize good <u>consequences*</u>. This type of "ethic" is very influential in modern economic theory, legal theory and politics.

The "deontological" approach to ethics emphasizes duty and moral principles. "Deon" in Greek means something like "what must be done" -- that which is <u>binding*</u> or necessary. In the deontological approach one's motivation or intention to do an action is what makes the action right. Deontologists do not focus on <u>consequences*</u> and <u>outcomes*</u>, but rather use their critical thinking to try to determine the correct moral principle to apply to a given situation. Immanuel Kant (1785/1987), the famous German philosopher, was a deontologist, arguing that his "categorical imperative" was the central principle of ethics. An "imperative" means a duty or command; categorical means in all categories of life and in all situations. Kant's first version of the categorical imperative states, "Act only according to that <u>maxim*</u> <u>whereby*</u> you can at the same time <u>will*</u> that it should become a universal law." A <u>maxim*</u> is a rule that guides action. Based on Kant's categorical imperative, if I believe in the <u>maxim*</u>, "People should love," then I should believe that I should love everyone, and everyone should love everyone else. If I believed in the <u>maxim*</u>, "It is ok to steal," then I should believe that everyone may steal from anyone, including stealing from me.

Appendix B: Guide for Analysis Papers

An essential part of the critical thinking skill is to be able to analyze information that you are receiving or providing someone in a critical way. One activity that will help you analyze information in a critical way is writing analysis papers using six questions:

What is the **purpose** of this article and the **questions** it addresses? The most challenging task here may be to gain as deep an understanding of the article as to be able to phrase the author's ideas in terms of questions.

What are the key **concepts** and **terms** the author is using in his article? Any article that has a focus and a particular purpose uses certain vocabulary. It's important to notice this vocabulary because it may show where the author is coming from: science or humanities field; artistic or academic domain, Christian or Muslim background, etc.

What **information or facts** does the author use? Suppose your friend tells you that a certain elective course is boring and is not worth taking. But what if your friend heard this information from someone who hates this professor because he is bald and short? A critical thinker always processes information in terms of its quality and checks whether it is a fact or a personal opinion.

What main **assumptions** or **lines of reasoning** is the author making? If I see a disabled man in a wheelchair and think that his life must be miserable, I assume that all disabled people live a miserable life. The problem is that sometimes our assumptions can be wrong, so can be the author's.

What **perspective** or **perspectives** does the author present in his article? We tend to take sides when we speak. Usually, we represent our own perspective, but sometimes we speak for a group of people. The purpose, the questions, concepts, and information discussed above all help identify the person's perspective.

What main **conclusions** or **implications** does the author make in his article? Implication is the bottom line of the message. It is the "So what?" question. If the news tells you that the gas prices have gone up and you don't own car or a motorcycle, does this news have any implications for you? Most likely, yes if you consider the economic relations between gas prices and any other products we have to buy for everyday use.

These other aspects of critical thinking are repeated again and again in this course. The ancient Greek philosopher Socrates is said to have used questions like these in his Socratic dialogs (see Kluge's article in Module 5). Today, experts in critical thinking, such as Richard Paul and Linda Elder talk about them too (see Salata's and Penn's articles in Modules 1 and 2). As you write analysis papers in every module, you will improve your understanding of these aspects of critical thinking and become more skilled critical thinkers.

Let's take an example and analyze this short description of the six questions you have just read above in the form of an analysis paper – a paper that you'll write for every article.

Appendix B (Continued)

An Analysis Paper of the Assignment Description Above

The main **purpose** of the description above is to explain the nature of the six questions so that you, as a student in this course, could effectively answer them in your papers. Thus, the main **questions** the author is addressing include "What does each of the six questions mean?" "Why is it important to consider them?", and "What does the student need to do in order to write the analysis papers successfully?"

The central **concepts** this text discusses include purpose, questions, concepts, information, assumptions, perspectives, and implications. These concepts are related to critical thinking.

The **information** the author is using seems to come from the famous Socrates. The other sources include a few contemporary scholars in the field of critical thinking: Ian Kluge, Mark Salata, Michael Penn, Richard Paul, and Linda Elder. The first three scholars are the co-authors of the BIHE Critical Thinking course. Each of them has also published extensively on the topic of critical thinking. Richard Paul and Linda Elder are the founders of the Critical Thinking Organization in the United States who train educators how to teach their students to be critical thinkers. **The fact** that the mentioned authors and scholars really used these six questions in their work can be confirmed through online resources and textbooks. Thus, one could conclude that the description above is dealing with reliable and credible information.

The author seems to **assume** that the student reading this text does not know much about the nature of these six questions. This is probably why the author is spending so much time discussing these questions. On the other hand, the author's **assumption** may be that the student reader will struggle understanding the description of this paper

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assignment in English. That is why we see some repetitions of ideas in his text and certain simplifications of the language.

The author is taking a **perspective** of an instructor. He is trying to explain how to do the analysis paper assignments properly. He may be representing a rather picky instructor too because he is being very detailed. In addition, he is presenting the **perspectives** of some leading experts in critical thinking and seems to be taking their side too.

Finally, the main **conclusion** we can draw is that these six questions are probably very important indeed. This, in turn, means that the analysis papers described in the text have some importance. The author does not appear to have any hidden or indirect **implications** for the readers.

To conclude, I think that this explanation of the six questions is somewhat boring. However, I see some benefits in it as well. I found that there is a direct connection between the author's perspective and his or her purpose, implied questions, concepts and information. Overall, I think I understand all these six aspects of critical thinking and should be able to apply them to my readings.

You will write a paper like this for every module, **except** that you will discuss only **three** aspects of critical thinking, not six: purpose/questions, conclusions/implications, and one other aspect of your own choosing. In other words, your analysis papers will:

- discuss **three** aspects of the module article: 1) purpose and questions, 2) conclusion/implications, and another one chosen from below:
- concepts/terms
- information/facts
- assumptions

Appendix B (Continued)

- perspectives

- include your own **reflection** on/reaction to the article at the very end of the paper

- be about **250-350 words** long

- be **well-organized** into paragraphs each containing one main focus

- be easily **understandable** and without many mistakes

Also, note that the language of this analysis includes a lot of hedging techniques. Hedging techniques are linguistic features used when the writer does not want to be too direct and pushy about his or her opinion. In the analysis paper above, examples of hedging include *…seems to …, …appear to …, …could…,… probably …, …may be…*Hedging is common in papers like this because as good critical thinkers we do not want to be making sweeping statements about the author's real thoughts and attitudes. True, some of the author's thoughts are quite direct and require little interpretation. However, attitudes, assumptions, implications and other such aspects of the author's text are often inferred and interpreted because they are not directly stated. As critical thinkers, we should make every effort to identify those aspects, but we cannot claim to be 100% right about them.

Finally, because this course is also meant to improve your academic English, your analysis papers must be submitted to your instructor for feedback and then revised and submitted again for grading. This process of revision is part of learning and will be included in the grade for the paper.

See the grading rubric for the analysis papers on the next page.

Analysis Paper Grading Rubric 1 – Content and Organization

Score	
	The paper is characterized by: ♦ Reasonably accurate reflection of the article's purpose/questions ♦ Reasonably accurate reflection of the article's conclusions/implications ♦ Reasonably accurate reflection of **one** of the following aspects of the article: 1) concepts/terms, 2) information/facts, 3) assumptions, or 4) perspectives. ♦ Student's personal reflection on the content of the article ♦ Effective organization in a manner that helps convey the student writer's thoughts
4	Excellent paper - exhibits **all** of the characteristics above
3	Good quality paper - exhibits **most** of the characteristics above
2	Satisfactory paper - exhibits **few** of the characteristics above
1	Weak paper - exhibits **none** of the characteristics above
0	No paper submitted

Analysis Paper Grading Rubric 2 – Language & Amount of Revision

Score	The paper is characterized by the following:
	♦ There are no or very few errors in the use of Standard English grammar and conventions of mechanics (punctuation, capitalization, spelling, and spacing) ♦ If present, the errors do not interfere with the comprehension of the paper ♦ The suggested revisions based on the instructor's feedback are present
2	Paper exhibits **all** of the characteristics above
1	Paper exhibits **most** of the characteristics above
0	Paper exhibits **few** or **none** of the characteristics above

Appendix D: Grading Rubric for Forum Discussions

Score	Student's participation in the forum assignment is characterized by the following:
	♦ Much effort to: a) offer knowledge and experience that group mates may not have and b) stimulate critical thinking and discussion ♦ Frequent application of critical thinking principles discussed in the readings ♦ Frequent and explicit references to the readings (e.g., According to Hatcher, … As Salata argues, …)
3	A score of 3 is assigned to a discussion that exhibits **all** of the characteristics above
2	A score of 2 is assigned to a discussion that exhibits **most** of the characteristics above
1	A score of 1 is assigned to a discussion that exhibits **few** of the characteristics above
0	A score of 0 is assigned to missing participation in the forum discussion

Appendix E: Problem Solution Forum #1

Forum discussions are meant to develop your critical thinking skills by exploring issues with an open but critical mind.

In discussing and providing possible solutions, keep in mind the following:

- this is a real-life problem and, as such, may have more than one solution, but whatever your suggest remember to justify using critical thinking principles you've learned

- you're encouraged and advised to research the issue further using any sources you'd like

- apply critical thinking ideas that you have learned in this course

- make references to the authors and scholars when applying ideas from the readings and other sources (e.g. *According to research from ...; As Salata says, ...*)

This forum discussion is based on a real-life problem of one of the course developers. Please read the description of the problem and then discuss possible solutions considering different aspects of critical thinking you have learned so far in this course: intellectual attributes and ethics in critical thinking.

A friend of mine (let's call her Julie) has a 7-year old son (let's call him Jon) who loves video-games. According to her, Jon spends at least 2 hours almost every day playing video games. This behavior upsets Julie very much. She worries about his physical health because he doesn't spend much time playing outside or doesn't help around the house. His friends are also hard-core video gamers and never seem to do any outdoor activities. She's also concerned about his psychological health. There is so much discussion in the media about the dangers of video games. According to some news, many young people who commit serious crimes including murder have been

inspired to do so after playing video games. On top of this, Jon doesn't read much or doesn't spend enough time on his homework. So Julie worries about her son's education.

If Julie could, she would throw away all the games, but, she says, the problem is in her husband. He keeps buying all those games for their son. Whatever they have in the house (a play station, a computer with a big huge screen, a sound system) was all her husband's initiative. Of course, he plays with him too. So Julie can't fight against them. She's all alone with this issue. She's very concerned because she believes the problem is not only her son's addiction to video games. It's also the relationships with her husband. She feels like she's ignored and not appreciated by her husband and son.

Appendix F: Problem Solution Forum #2

Like Problem-solution Forum #1, this forum is meant to develop your critical thinking skills by exploring issues with an open but critical mind. However, unlike in the previous forum, here you`ll post **your own** description of a real-life problem. Then, you will read your groupmates` problems and provide **recommendations** to solve them.

About Your Problem Descriptions

Your real-life problem could come from your own, your family`s, relatives` or friends` experience. It could even come from a movie, a documentary, or a book that you have read.

Why-real life problem? Because they tend to be complex, involve multiple perspectives, and as such elicit different opinions and have different solutions. Great exercise for critical thinking.

The problem CANNOT be global or national. Your best bet would be **personal problems** like the computer game case in the previous forum discussion. Problems that go beyond personal issues may be hard to analyze within the scope of our course. Here are some possible ideas: relationships among co-workers, colleagues, classmates, relatives, friends, between teachers and students, etc.

- **Protect the privacy** of people involved in your problem. Avoid mentioning real names or relationships.

- Provide a lot of detail - at least **300-400 words** to describe your problem.

- Finally, post your problem description as soon as possible - no later than **June 10**. This will leave some time for the discussion of the problems.

About Problem Discussions

- Once you see your groupmates` problem description, start posting ideas to analyze

  the problem and provide specific solutions.

- Respond to all groupmates` problems

- Make sure to use the ideas from the readings, particularly Chapters 4 and 5.

- For more info, please see the grading rubric for forum discussions.

Appendix G: Problem-Solution Forum #3 (Problem 1)

As in all other discussion threads in this Problem-Solution Forum #3, in this thread we're discussing a chapter from the book *The Kingdom of the Cults* by Walter Martin. This book is well-known in the U.S. among different religious denominations, and it has both supporters and opponents in those denominations. Please download the copy of the chapter about the Bahá'í Faith attached and read it before you start this discussion. Also, read the chapter by Ian Kluge about Evaluating Evidence in Module 6.

In this discussion thread, you will debate with your group-mates focusing on the evidence aspect of Martin's chapter. Some of you will be the supporters and the others - opponents of Walter Martin. Whatever you are, make sure to 1) rely on the principles of critical thinking to defend your position (see the grading rubric for details), and 2) be very polite to your opponents (making verbal attacks is actually one of the fallacies of critical thinking that you'll learn in Module 7).

Opponents of Walter Martin: [names of students]. You should be the first to start this discussion. Analyze Martin's chapter in terms of the evidence he used to convince the readers. In your posts, argue that the chapter has flaws related to the evidence. Make references to the course readings or any other supporting sources you choose to use.

Supporters of Walter Martin: [names of students]. You should defend Martin's chapter. Respond to your opponents trying to rely as much as possible on the course readings and any other sources you may find. It may not be easy because you're Bahá'ís, and the chapter is criticizing the Bahá'í Faith. However, remember that as critical thinkers, you should look for the truth and not for what you may be biased about. You're encouraged to read more about Martin Walter or his book online. You're welcome to make up some information when possible. Yes, you can be creative 😊.

Appendix H: Problem-Solution Forum #3 (Problem 2)

Please KEEP YOUR POSTS IN THIS DISCUSSION A COMMON THREAD. Use only the Reply button to post your ideas.

Dear students in my group:

We're trying something different with the question and answer forum. I have uploaded an article for you. (It is attached to this post) It has information from two people, each with a different point of view. This is an exercise in analyzing critical thinking using what you have learned – including the current article.

Your first response should be a summary of the article with a bias toward support of the main idea or a challenge to the main idea. As your classmates post, offer your thoughts in terms of your role.

You have been assigned a role to either support or challenge Shaunti Feldhahn point of view. Members in each group will take the perspective of one of the writers and will try to find logical fallacies in the argument of the other writer. Read the article and respond as assigned:

Group 1 will take the side of Shaunti Feldhahn: [name of five students]

Group 2 takes the side of Andrea Cornell Savady: [names of six other students]

Feel free to use your own ideas. But I'd prefer if you can offer support or challenge offering brief statements (less than 50 words) in your own words.

Follow the rubric. Do not start a new post, but hit the reply button. Let's try to get a dialogue going here. (Weak posts that offer no new information or points to discuss are not counted toward your score.) If you feel that your fellow students are not active, ask me for my opinion and I'll offer my thought

Let's try to get a dialogue going here. It should be fun.

(Graded twice per semester: at midterm and end of semester)

Participation: Optional

Maximum points: 3

Weight: a total of additional 8%

Score	Student participation in the Wiki activities is characterized by: ♦ Generation of **new ideas** ♦ **Contribution to existing ideas** ♦ Participation regular (**at least in 3** Wikis) and **substantive**
3	Participation exhibits **all** of the characteristics above
2	Participation exhibits **most** of the characteristics above
1	Participation exhibits **few** of the characteristics above
0	No participation

Appendix J: Grading Rubric for Conference Calls

(Graded once at the end of semester)

Participation: Optional

Maximum points: 2

Weight: a total of additional 8%

Score	
	The student: ♦ Actively **asked** subject-related questions and **shared** ideas ♦ Participated in **at least 3** conference calls during semester
2	Participation exhibits **all** of the characteristics above
1	Participation exhibits **most** or **some** of the characteristics above
0	No participation

Appendix K: Course Assignments, Due Dates, and Weights

Assignment	Percent
Analysis Papers	**(64%)**
Analysis paper for Module 1 (due date: Draft - May 7, Final - May 14)	
Analysis paper for Module 2 (due date: Draft - May 17, Final - May 24)	
Analysis paper for Module 3 (due date: Draft - May 26, Final - May June 2)	
Analysis paper for Module 4 (due date: Draft - June 6, Final - June 13)	
Analysis paper for Module 5 (due date: Draft - June 31 , Final - July 6)	
Analysis paper for Module 6 (due date: Draft - July 9, Final - July 16)	
Analysis paper for Module 7 (due date: Draft - July 19, Final - July 27)	
Analysis paper for Module 8 (due date: Draft - July 28, Final - August 7)	
Problem-Solution Forum Discussions	**(36%)**
Problem-Solution Forum #1 (due date: May 30)	
Problem-Solution Forum #2 (due date: July 3)	
Problem-Solution Forum #3 (due date: August 8)	
Optional Assignments for Bonus Points	
Pre-writing group Wiki for every analysis paper	extra 8%
Skype/Yahoo Messenger/Phone Conference calls with instructor	extra 8%
Total	**100%**

Appendix L: A Letter to Course Instructors

Welcome Message to the Course Instructors

Dear Colleagues:

As a facilitator of this course and a co-developer, I would like to thank you for joining your efforts in the delivery of this course. Please read the following before you proceed to the training.

Teaching Philosophy

This EFL 104 - Critical Thinking course is an effort to help BIHE students transition from pure English instruction (EFL 100 through 103) to mainstream college-level English-medium subject matter courses. This effort is in line with:

[the] BIHE's long term strategy for improving the English skills of the students so they can take part in the courses that are taught in English without difficulty and use the much larger pool of academic and research resources available on the internet (BIHE Graduate, Undergraduate and College Bulletin, 2006, p. iii).

The philosophy behind this course is similar to that of sound bilingual and immersion pedagogy in elementary and secondary schools, where kids take subject courses in a foreign language and succeed not only in the subject matter but also in the foreign language. If implemented well, such pedagogy kills two birds with one stone. Two aspects of this pedagogy appear most salient: 1) primary focus on the subject matter, and 2) adequate support with the foreign language. As instructors of this course, you're considered subject-matter experts in critical thinking, and are expected to help students harness the challenging philosophy-oriented content of this course. At the same time,

you're called to provide the necessary linguistic support to facilitate the students' successful completion of course assignments, such as feedback on draft papers.

Context

BIHE students face challenges that may have some repercussions for the delivery of this course. They travel to Tehran every three or four weeks for the correspondence courses they take. These trips tend to disrupt their work. Not all students will have quality internet or telephone connection. We tried to consider those challenges in the scheduling and grading approach. There is one grace period that students can use at their discretion. The late policy is another way to allow for late submission of assignments, albeit with incremental deduction of points. There are also a few optional assignments that students can complete to compensate for the points lost elsewhere.

Finally, as instructors, please be aware that certain changes in the schedule may occur due to the unexpected circumstances in Iran.

Teacher Training

The developers of this course would like to encourage a collaborative approach to the teacher training. As you browse through the course and study its contents, please don't hesitate to make suggestions about the assignments, grading policy, organization, or even the language if something sounds non-native-like or confusing. The same applies to the course delivery. Any ideas or materials that you would like to add or request as the course progresses would be appreciated.

The structure of the training is simple. Go to the <u>Faculty Forum</u> on the main course site and participate in the discussions as you study and experiment with different aspects of the course.

Note that you as well as students should able to unsubscribe from Forums and not receive copies of posts by email. To do that, select a particular forum from the main course site page, and find a link to unsubscribe in the top right hand corner.

Should you experience any technical issues with this course, please let me know. If I can't resolve it, I'll contact someone who can.

My Research

Some of you may know that this course is a research site for my dissertation. I'm in the process of finalizing my proposal, and hopefully by the beginning of May I will be ready to collect data. Without being too theoretical, the focus is going to be on challenges that our students will face as they handle this course. The good news is that I'm not going to control anything. The study is going to be naturalistic, so I'll be "a fly on the wall", an invisible and non-judgmental fly. You will be able to make a decision about your participation in the study when I send out invitations by email.

Sincerely,

Irshat Madyarov

Appendix M: Email Recruitment Letter to Students

Dear [student's name],

As you may know, I'm one of the instructors for EFL 104. In addition to teaching for BIHE, I also teach and do research at the University of South Florida, U.S. I have done a few research studies for BIHE to improve English distance instruction.

Now, I'm doing research on EFL 104 as part of my Ph.D. dissertation. In this study, I want to study challenges that you and other students face taking EFL 104. I wanted to know if you'd be interested to participate in this study. If you agree, I'll include you in the list of possible participants. After I receive emails from all interested students, I'll select 6 students with different backgrounds and experience. Then, I'll contact you again to let you know if you're one of the 6 students.

I attached a document that describes the benefits and possible risks of participating in this study. In short, if you participate, you will have an opportunity to:

- discuss all your problems and concerns with me over Skype/Yahoo messenger/phone bridge every 2-3 weeks
- practice English through our regular conversations
- improve the quality of education in BIHE
- help spread the information about BIHE around the world (through my presentations and publications).

Keep in mind that all the information you share with me will be confidential. Your participation will not put to risk your grade in the course.

For more information, please have a look at the document I attached.

Please let me know your decision as soon as you can. I'll wait for your response for 5 days. You can ask me or [EFL coordinator's name] at [email address] if you want to clarify anything about this study.

Appendix M (Continued)

I look forward to your response.

Irshat Madyarov,

Ph.D. Candidate in Second Language Acquisition and Instructional Technology

University of South Florida

Informed Consent to Participate in Research

Information to Consider Before Participating in this Research Study

Dear Student:

My name is Irshat Madyarov. I am a Ph.D. student at the University of South Florida (USF). I am also a Bahá'í, and I would like to help improve the quality of instruction at BIHE. To do this, I need the help of people who agree to participate in my research study.

In addition to me, a coordinator of distance EFL courses at BIHE, Aida Taef, will be helping me with this research. You can ask her any questions you may have about the study or share your concerns with her during the study.

The research will be done at a distance: at the Moodle course website and through phone or computer conference calls.

Purpose of the study

The study is called Contradictions in a Distance Content-Based English as a Foreign Language Course: Activity Theoretical Perspective.

It is going to be based on the EFL 104 - Critical Thinking course. Unlike other EFL courses, such as EFL 101, 102 or 103, this Critical Thinking course is not going to be about English. It is going to be about the subject of critical thinking – a rather philosophical subject that may be quite challenging to you because of much new

information. In my study, I would like to understand how you solve the challenges of this course and the role that English plays in this process.

Study Procedures

    To participate in the study, you need to be taking the EFL 104 - Critical Thinking. In addition, I will ask you a few other things:

- We will have interviews to discuss the challenges and concerns that you have about the course.

- There will be four interviews during this semester; each interview will last about 20-40 min.

- The interviews will be done through phone or Skype/Yahoo Messenger depending on your preference. All interviews will be in English.

- I will audio-record the interviews to analyze your challenges more closely.

- I will also look at your course assignments and other information at the Moodle course site to understand your challenges better.

    If you choose to participate in conference calls with your instructor to earn bonus points for the Critical Thinking course, I will also ask your instructor to record your conversation.

Alternatives
    You have a choice not to participate in this research study. This will not have any effect on your course grade or status.

Benefits
    As participants of the study, you will have the following benefits:

1. You will be able to express and discuss your concerns about the course.

2. You will have an opportunity to practice English during interviews with me as a researcher.

3. You will be able to provide service to BIHE by helping improve its distance education.

Risks or Discomfort

There is one potential risk to you:

-   When I research about your challenges in the Critical Thinking course, I may find some information that you would like to keep secret. In this case, a possible risk is that some people may try to get that information for purposes not related to research.

Compensation

I will not able to pay you for the time you volunteer while being in this study.

Confidentiality

I must keep your study records confidential.

-   The documents collected for the study and audio-recordings of the interviews will be kept for three years after the end of the study.

-   This information will not include your personal identification, such as your name. Instead, I will use a code to protect your identity.

-   All the documents and audio files will be kept on my personal password-protected computer. The files will be password-protected too.

When I share documents with my colleagues or professors, I will remove all identifying information. I will not share audio-recorded interviews with anyone. However, certain people may need to see your study records. By law, anyone who looks at your

records must keep them completely confidential. These people include those who protect

your rights and your safety:

- The staff working for the University of South Florida Institutional Review Board

- Other individuals who work for USF to protect your rights and safety

We may publish the results of this study. If we do, we <u>will not use</u> your name or any other

identification information.

Voluntary Participation / Withdrawal

You should only participate in this study if you wish to do so. There is <u>no pressure</u> to

participate in the study to please the investigator. You <u>are free</u> to participate in this research

or withdraw (stop participating) at any time. There will be no penalty if you stop

participating in this study. Your decision to participate or not to participate <u>will not affect</u>

<u>your student status</u> or course grade.

Questions, concerns, or complaints

If you have any questions, concerns or complaints about this study, call me, Irshat

Madyarov, at +1-813-504-9615 or reach me through Skype: irshat19, or by email at

irshat@yahoo.com. You can also talk to Aida Taef, the contact person for this study, at

0098-21-6600-8073 or by email at aida.taef@bihe.org.

If you have questions about your rights as a participant in this study, general questions,

or have complaints, concerns or issues you want to discuss with someone outside the

research, call the Division of Research Integrity and Compliance of the University of South

Florida at 1+813-974-9343.

Consent to Take Part in this Research Study

It is up to you to decide whether you want to participate in this study. If you want to

participate, please email to me at irshat@yahoo.com and let me know your decision.

Sincerely

Irshat Madyarov

Ph.D. Candidate in Second Language Acquisition and Instructional Technology

University of South Florida

![USF University of South Florida logo]

Informed Consent to Participate in Research
Information to Consider Before Participating in this Research Study

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Dear Critical Thinking Course Instructor:

My name is Irshat Madyarov. I am a Ph.D. student at the University of South Florida (USF). I am also a Bahá'í, and I would like to help improve the quality of instruction at the Bahá'í Institute for Higher Education (BIHE). To do this, I need the help of people who agree to participate in my research study.

In addition to me, Aida Taef who is a BIHE coordinator of distance EFL courses residing in Iran, will be helping me with this research. You can ask her any questions you may have about the study or share your concerns with her during the study.

The research will be done at a distance: at the Moodle course website and through phone or computer conference calls.

Purpose of the study

The study is called Contradictions in a Distance Content-Based English as a Foreign Language Course: Activity Theoretical Perspective.

It is going to be based on the EFL 104 - Critical Thinking course. Unlike other EFL courses, such as EFL 101, 102 or 103, this Critical Thinking course is not going to be about English. It is going to be about the subject of critical thinking – a subject that may be quite challenging to the EFL 104 students because of much new information and

many linguistic demands. In my study, I would like to understand how EFL 104 students

solve the challenges of this course and the role that English plays in this process.

Study Procedures

    If you participate in the study, I will ask the following:

- We will have interviews to discuss the challenges and concerns that EFL 104
  students have about the course. These interviews will follow up on the interviews
  with your students to triangulate the information they provide. I will not share the
  information from these interviews with anyone including the student participants.

- There will be one to three interviews during this semester; each interview will last
  about 20-40 min.

- The interviews will be done through phone or Skype/Yahoo Messenger depending
  on your preference.

- I will audio-record the interviews to analyze EFL 104 students' challenges more
  closely.

- I will also analyze the students' assignments, such as papers and forum discussions
  to get a better sense of the students' challenges and how they address them.

Alternatives

    You have a <u>choice not to participate</u> in this research study. This will <u>not have any effect</u>

on your instructor status at BIHE.

Benefits

    As participants of the study, you will have the following benefit:

You will be able to provide service to BIHE by helping improve its distance education.

Risks or Discomfort

There is one potential risk to you:

- When I research about your students' challenges in the Critical Thinking course, I may find some information that you would like to keep secret. In this case, a possible risk is that some people may try to obtain that information for purposes not related to research despite my effort to protect it.

Compensation

I will not able to pay you for the time you volunteer while being in this study.

Confidentiality

I must keep your study records confidential.

- The audio-recordings of the interviews and the student produced artifacts will be kept for three years after the end of the study.

- This information will not include your personal identification, such as your name. Instead, I will use a code to protect your identity.

- All the audio files will be kept on my personal password-protected computer. The files will be password-protected too.

- When I share documents with my colleagues or professors, I will remove all identifying information. I will not share audio-recorded interviews with anyone.

However, certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. These people include those who protect your rights and your safety:

- The staff working for the University of South Florida Institutional Review Board.

- Other individuals who work for USF to protect your rights and safety

We may publish the results of this study. If we do, we will not use your name or any

Appendix O (Continued)

other identification information.

Voluntary Participation / Withdrawal

You should only participate in this study if you wish to do so. There is <u>no pressure</u> to participate in the study to please the investigator. You <u>are free</u> to participate in this research or withdraw at any time. There will be no penalty if you stop participating in this study. Your decision to participate or not to participate <u>will not affect your instructor status</u> at BIHE.

Questions, concerns, or complaints

If you have any questions, concerns or complaints about this study, call me, Irshat Madyarov, at +1-813-504-9615 or reach me through Skype: irshat19, or by email at irshat@yahoo.com. You can also talk to Aida Taef, the contact person for this study, at 0098-21-6600-8073 or by email at aida.taef@bihe.org.

If you have questions about your rights as a participant in this study, general questions, or have complaints, concerns or issues you want to discuss with someone outside the research, call the Division of Research Integrity and Compliance of the University of South Florida at 1+813-974-9343.

Consent to Take Part in this Research Study
It is up to you to decide whether you want to participate in this study. If you want to participate, please email to me at irshat@yahoo.com and let me know your decision.

Thank you.

Sincerely

Irshat Madyarov

Ph.D. Candidate in Second Language Acquisition and Instructional Technology

University of South Florida

Informed Consent to Participate in Research
Information to Consider Before Participating in this Research Study

Dear [TA's name]:

My name is Irshat Madyarov. I am a Ph.D. student at the University of South Florida

(USF). I am also a Bahá'í, and I would like to help improve the quality of instruction at BIHE.

To do this, I need the help of people who agree to participate in my research study.

In addition to me, a coordinator of distance EFL courses at BIHE, Aida Taef, will be

helping me with this research. You can ask her any questions you may have about the

study or share your concerns with her during the study.

The research will be done at a distance: at the Moodle course website and through

phone or computer conference calls.

Purpose of the study

The study is called Contradictions in a Distance Content-Based English as a Foreign

Language Course: Activity Theoretical Perspective.

It is going to be based on the EFL 104 - Critical Thinking course. Unlike other EFL

courses, such as EFL 101, 102 or 103, this Critical Thinking course is not going to be about

English. It is going to be about the subject of critical thinking – a rather philosophical subject

that may be quite challenging to the EFL 104 students because of

much new information. In my study, I would like to understand how EFL 104 students solve

the challenges of this course and the role that English plays in this process.

Study Procedures

If you participate in the study, I will ask the following:

- We will have interviews to discuss the challenges and concerns that EFL 104

  students have about the course.

- There will be one to three interviews during this semester; each interview will last

  about 20-40 min.

- The interviews will be done through phone or Skype/Yahoo Messenger depending

  on your preference. All interviews will be in English.

- I will audio-record the interviews to analyze EFL 104 students' challenges more

  closely.

Alternatives

You have a <u>choice not to participate</u> in this research study. This will <u>not have any effect</u>

on your status at BIHE.

Benefits

As participants of the study, you will have the following benefit:

You will be able to provide service to BIHE by helping improve its distance education.

Risks or Discomfort

There is one potential risk to you:

- When I research about your challenges in the Critical Thinking course, I may find

  some information that you would like to keep secret. In this case, a possible risk is

  that some people may try to obtain that information for purposes not related to

  research despite my effort to protect it.

Appendix P (Continued)

Compensation

I will not able to pay you for the time you volunteer while being in this study.

Confidentiality

I must keep your study records confidential.

- The audio-recordings of the interviews will be kept for three years after the end of the study.

- This information will not include your personal identification, such as your name. Instead, I will use a code to protect your identity.

- All the audio files will be kept on my personal password-protected computer. The files will be password-protected too.

- When I share documents with my colleagues or professors, I will remove all identifying information. I will not share audio-recorded interviews with anyone.

However, certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. These people include those who protect your rights and your safety:

- The staff working for the University of South Florida Institutional Review Board.

- Other individuals who work for USF to protect your rights and safety

We may publish the results of this study. If we do, we will not use your name or any other identification information.

Voluntary Participation / Withdrawal

    You should only participate in this study if you wish to do so. There is no pressure to participate in the study to please the investigator. You are free to participate in this research or withdraw at any time. There will be no penalty if you stop participating in this study. Your decision to participate or not to participate will not affect your status at BIHE.

Questions, concerns, or complaints

    If you have any questions, concerns or complaints about this study, call me, Irshat Madyarov, at +1-813-504-9615 or reach me through Skype: irshat19, or by email at irshat@yahoo.com. You can also talk to Aida Taef, the contact person for this study, at 0098-21-6600-8073 or by email at aida.taef@bihe.org.

    If you have questions about your rights as a participant in this study, general questions, or have complaints, concerns or issues you want to discuss with someone outside the research, call the Division of Research Integrity and Compliance of the University of South Florida at 1+813-974-9343.

Consent to Take Part in this Research Study

    It is up to you to decide whether you want to participate in this study. If you want to participate, please email to me at irshat@yahoo.com and let me know your decision.

Thank you.

Sincerely

Irshat Madyarov

Ph.D. Candidate in Second Language Acquisition and Instructional Technology

University of South Florida

USF
UNIVERSITY OF
SOUTH FLORIDA

Informed Consent to Participate in Research
Information to Consider Before Participating in this Research Study

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Dear [Coordinator's name]:

As you know, I am conducting research with the distance Critical Thinking course this Summer 2008 semester. You have kindly agreed to assist me with this research as a contact person. Now, I would like to ask you if you would be willing to join this study as a participant since your role of the EFL coordinator at BIHE may provide insightful information for this research.

Purpose of the study

The study is called Contradictions in a Distance Content-Based English as a Foreign Language Course: Activity Theoretical Perspective.

It is going to be based on the EFL 104 - Critical Thinking course. Unlike other EFL courses, such as EFL 101, 102 or 103, this Critical Thinking course is not going to be about English. It is going to be about the subject of critical thinking – a rather philosophical subject that may be quite challenging to the EFL 104 students because of much new information. In my study, I would like to understand how EFL 104 students solve the challenges of this course and the role that English plays in this process.

Study Procedures

If you participate in the study, I will ask to participate in one interview at the end of the Critical Thinking course.

Appendix Q (Continued)

- The interview will last about 30-50 min.

- The interview will be done through Skype/Yahoo Messenger depending on your preference. All interviews will be in English.

- I will audio-record the interviews to analyze EFL 104 students' challenges more closely.

Alternatives

You have a <u>choice not to participate</u> in this research study. This will <u>not have any effect</u> on your status at BIHE.

Benefits

As a participant and research assistant of the study, you will have the following benefits:

- You will be able to provide service to BIHE by helping improve its distance education.

- You will be invited to co-author publications related to this research in academic journals.

Risks or Discomfort

There is one potential risk to you:

- When I research about your challenges in the Critical Thinking course, I may find some information that you would like to keep secret. In this case, a possible risk is that some people may try to obtain that information for purposes not related to research despite my effort to protect it.

Compensation

I will not able to pay you for the time you volunteer while being in this study.

Confidentiality

I must keep your study records confidential.

- The audio-recordings of the interview will be kept for three years after the end of the study.

- This information will not include your personal identification, such as your name. Instead, I will use a code to protect your identity.

- All the audio files will be kept on my personal password-protected computer. The files will be password-protected too.

- When I share the transcript of the interview with my colleagues or professors, I will remove all identifying information. I will not share audio-recorded interviews with anyone.

However, certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. These people include those who protect your rights and your safety:

- The staff working for the University of South Florida Institutional Review Board.

- Other individuals who work for USF to protect your rights and safety

We may publish the results of this study. If we do, we will not use your name or any other identification information.

Voluntary Participation / Withdrawal

You should only participate in this study if you wish to do so. There is no pressure to participate in the study to please the investigator. You are free to participate in this research or withdraw at any time. There will be no penalty if you stop participating in this study. Your decision to participate or not to participate will not affect your status at BIHE.

Questions, concerns, or complaints

If you have any questions, concerns or complaints about this study, call me, Irshat Madyarov, at +1-813-504-9615 or reach me through Skype: irshat19, or by email at irshat@yahoo.com.

If you have questions about your rights as a participant in this study, general questions, or have complaints, concerns or issues you want to discuss with someone outside the research, call the Division of Research Integrity and Compliance of the University of South Florida at 1+813-974-9343.

Consent to Take Part in this Research Study

It is up to you to decide whether you want to participate in this study. If you want to participate, please email to me at irshat@yahoo.com and let me know your decision.

Thank you.

Sincerely

Irshat Madyarov

Ph.D. Candidate in Second Language Acquisition and Instructional Technology

University of South Florida

Appendix R: Coding Definitions

Code	Definition
Analysis requirement disturbance	Instructor's comment asking for a corrective follow-up on any one of the following required elements of the analysis of the articles: purpose, questions, perspectives, concepts, information, implications, and student's personal reflections/reaction to the article. The comment may ask to add one of the missing elements, expand on it, or change its content due to inaccuracies
Content disturbance	Instructor's comment asking for a corrective follow-up about ideas related to the student's understanding of the articles and his/her thoughts about the articles. This feedback does not concern the elements of the analysis above.
Language disturbance	Instructor's comment asking for a corrective follow-up on a grammatical, lexical, organizational, or mechanical issue that did not cause a genuine confusion on the part of the instructor.
Genuine instructor disturbance	Instructor's comment asking to clarify or correct a word, phrase, or sentence because the original student's wording was not clear.
Time disturbance	Late submissions of analysis papers.
Distance environment disturbance	Student's problems due to the online mode of education: either due to removal of physical presence or due to time difference

Technology disturbance	Student's problems due to technical difficulties: poor Internet connection, phone quality, computer breakdowns, problems at the course site, or with the course CD materials
BIHE disturbance	Student is upset with the way BIHE functions or how it treated him/her, such as scheduling issues or the need to travel to Tehran.
Health disturbance	Student's problems in the course due to sickness
Government disturbance	Student's problems due to persecution and discrimination of Bahá'ís in Iran: confiscation of facilities, banning of activities at BIHE, banning of Bahá'í related activities
Personal interaction disturbance	Student doesn't like to get to know people by phone or in the online environment. He/she may perceive it being impolite/intruding or may simply feel uncomfortable doing it.
Friend's illness disturbance	Student mentions his friend's illness that prevented him/her from spending more time on the course
UCS disturbance	Student admits that he/she is not familiar with course requirements and description discussed in the Universal Course Structure
Forum disturbance	Student admits that he/she finds the asynchronous forums inconvenient for effective communication
Non-fix innovation	Student chooses not to address the instructor's recommendation
Superficial fix innovation	Student takes action to address the instructor's recommendation, but it is clear that it could have been done much better

Removal innovation	Student deletes the error together with the part of the text that received the instructor's feedback
EFL object	Student expresses a genuine interest in improving English either verbally in interviews or though reported actions, such as reading books or watching movies in English, being sensitive to grammar and vocabulary inaccuracies
Grade object	Student expresses interest in the grade by asking his/her instructor questions or mentioning grades in the interviews
Critical thinking object	Student expresses interest in critical thinking or philosophy by asking his/her instructor questions or mentioning grades in the interviews
Intellectual self-improvement object	Student expresses a genuine interest in learning different subjects. Learning critical thinking and EFL sounds to be motivated by the same interest of learning different subjects.
Criticizing object	Student either verbally expresses interest in finding faults with others or performs actions motivated by this interest.
Bahá'í Faith object	Student either verbally mentions the importance of the Bahá'í Faith in his/her life or reports on actions taken as part of the Bahá'í life, such as attending study circles, telling (teaching) other people about the Faith, or sharing information related to the Bahá'í Faith or its ideals by email.
Socializing object	Student either admits his/her interest in socializing with people or performs actions that demonstrate this interest of his/hers.

Continuing education object	Student expresses interest and shares plans about continuing his/her education in an English-speaking country.
Instrument	Mediating means that the student uses to facilitate his/her actions in the course. They may include physical objects, computer applications, or people that do not belong to his/her community, and yet whom he/she asks for help whenever needed
Division of labor	Roles that are performed by the student or his/her community members
Community	Information about the student's community: instructor and classmates. This may include information that demonstrates interaction among the community members or lack thereof
Rules	Information about the requirements in the course
Subject	Student's profile, his/her preferences and previous experience or background information.
Regulative behaviors	Student takes actions to facilitate his/her work in the course.
Self-correction	Student corrects his/her own error in the process of revisions without the instructor's comment

Appendix S: The Elimination Approach Form

Student's name	English proficiency: Low/Mid/High	Instructor's name	Age	Computer literacy: Low/Mid/High	Previous distance courses: Negative/None/ Positive	Gender: Male/Female	Motivation: English/ Content/ Both/None/ Else Low/Mid/High

ABOUT THE AUTHOR

After graduating from a five-year program at the Romano-Germanic Department at the Bashkir State University, Russia, Mr. Irshat Madyarov worked as an English instructor at the Department of Romano-Germanic Philology at the Orenburg State University, Russia. In 2002, he moved to the US to study for an MA degree in Teaching English to Speakers of Other Languages at the West Virginia University. He then continued his education at the University of South Florida in the doctoral program in Second Language Acquisition and Instructional Technology.

While in the US, Mr. Irshat Madyarov worked at Intensive English Programs as an English instructor, coordinator of computer assistance language learning, and coordinator of the academic strand of the school curriculum. He also taught undergraduates and graduate courses in applied linguistics. Throughout his doctoral program, he worked extensively on a voluntary basis for the Bahá'í Institute for Higher Education, a distance university in Iran.