The Role of Students' Attitudes and Motivation in Second Language Learning in Online Language Courses

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ABSTRACT

This study investigated the role of students' motivation and attitudes in second language (L2) study within an online language course context (LOL). Students' attitudes and motivation were examined within a socioeducational framework (Gardner & MacIntyre, 1993) while learning contexts were examined based on Dörneyi's (1994) components of foreign language learning motivation. Students' learning behaviors and learning outcomes were used as predictor and criterion variables in a series of quantitative and qualitative analyses. The results showed that students tended to have relatively high anxiety about the LOL course at the beginning of the semester, perhaps due to their lack of familiarity with the specific LOL learning environment. However, students' motivation and attitudes toward L2 study were relatively positive and stable during the course. The findings provided some evidence that motivated students studied regularly and productively to take every opportunity to perfect their language skills. It was also found that each teacher idiosyncratically implemented the LOL course, thereby creating a unique class culture and affecting students' motivation and attitudes toward studying the L2 in the LOL context. The findings reinforced the importance of students' motivation and attitudes in L2 study and, equally important, the continuing critical role of the teacher in technology-enhanced teaching.

KEYWORDS

Motivation, Attitudes, Online Course, Second Language, Teacher's Role

INTRODUCTION

A student's attitude and motivation has frequently been reported to be the most critical factor for success within computer-assisted language learning (CALL) environments (Brandl, 2002; Desmarais, 2002; Doherty, 2002; Gilbert, 2001; Murday & Ushida, 2002; Warschauer, 1996a, 1996b). Motivation, according to Winne and Marx (1989), is both a condition for, and a result of, effective instruction. Based on these claims, it is plausible to speculate that students' motivation plays an important role in successful CALL implementation and that, if used effectively, the CALL environment can enhance students' motivation to learn a second

language (L2). This study investigated the role of motivation and attitudes on student L2 learning in an online L2 course context. It also examined how this new L2 learning environment affected students' attitudes and motivation, and how this, in turn, affected students' L2 learning.

The Department of Modern Languages at Carnegie Mellon University has been delivering "Language Online" courses (LOL), elementary and intermediate levels of online French and Spanish courses, since Spring 2000. The LOL courses attempt to avoid the constraints of time and space associated with traditional instruction, making it possible for students whose time is often occupied with laboratory, project, or studio courses to take basic foreign language courses. Each LOL is a "hybrid" course consisting of in-class components and out-of-class components, which is generally believed to be more effective than exclusively online courses since hybrid courses provide more guidance to students and help them stay focused on their learning, rather than depending fully on students' self-motivation.

The study was based on two popular frameworks for L2 motivation. First, Gardner and MacIntyre's (1993) socioeducational model of second language acquisition was used to examine the relationship between students' motivation, attitudes, and L2 achievement. Second, components of Dörnyei's (1994) L2 learning motivation model was used to identify motivational factors that were related to the immediate LOL L2 learning situations.

REVIEW OF RELEVANT LITERATURE

Focus on Students' Attitudes and Motivation

The study of motivation has been a prominent area for research in psychology and education for many years (Dörnyei, 2001a). This interest may reflect the widespread perception of classroom teachers who tend to regard student motivation as the most important factor in educational success in general (Dörnyei, 2001b).
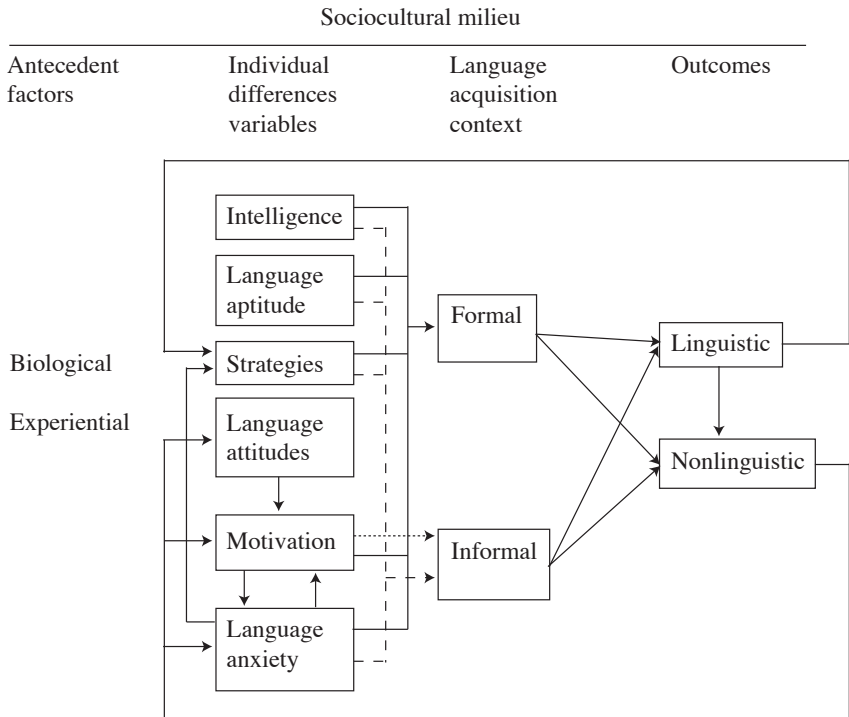
The literature on L2 motivation has two main streams. One stream consists of a series of studies based on Gardner's socioeducational model in which the role of integrative motivation—comprised of integrativeness, attitudes toward the learning situation, and motivation—was experimentally investigated as a determinant of L2 attainment. The other stream calls for the implementation of a new "agenda" (Crookes & Schmidt, 1991) for L2 motivation research, proposing a number of alternative models with an attempt to gain a more in-depth understanding of L2 learning motivation within mainstream education. While the former studies investigate causal relationships among possible individual-difference variables with various L2 achievement measures, the latter attempts to identify possible variables that could influence learners' motivations within the immediate L2 learning context. Each of these approaches is reviewed in the following sections.

Gardner's Socioeducational Model of SLA

The role of L2 learning motivation has been intensively studied by social psychologists in Canada, where French and English are the two official languages. Gardner (1985) hypothesized that L2 learners with positive attitudes toward the

target culture and people will learn the target language more effectively than those who do not have such positive attitudes. In their earlier studies, Gardner and Lambert (1959) found that aptitude and motivation were the two factors most strongly associated with learners' L2 achievement. Gardner and MacIntyre (1993) drew together the findings from many studies over several decades and developed Gardner's "socioeducational model of SLA" (see Figure 1).

Figure 1
Representation of Socioeducational Model of SLA (Gardner & MacIntyre, 1993)

Sociocultural milieu

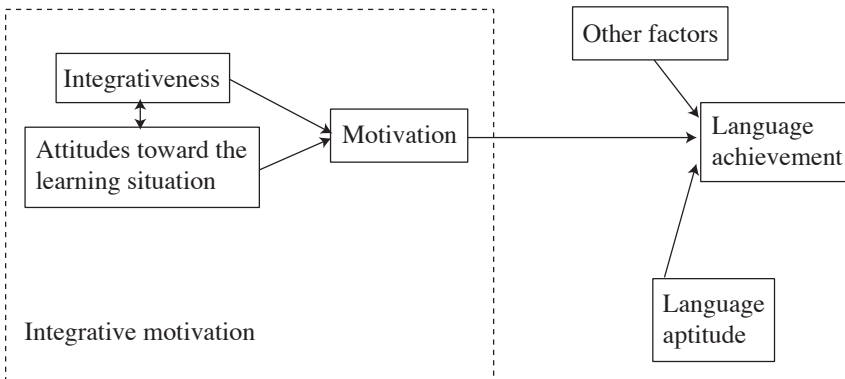| Antecedent factors | Individual differences variables | Language acquisition context | Outcomes |

Proponents of this model of SLA (Gardner & MacIntyre, 1992, 1993) claim that individual-difference variables (e.g., cognitive variables and affective variables), influenced by antecedent factors (i.e., biological factors such as age and experiential factors such as previous language training experience), interact with both formal and informal language acquisition contexts and influence both linguistic and nonlinguistic outcomes (i.e., students' reactions to the learning experience). Gardner and MacIntyre (1993, p. 9) argue that this model shows the importance of what takes place in the learning contexts: "Teachers, instructional aids, curricula, and the like clearly have an effect on what is learned and how students react to the experience." The model also predicts that students' degree of success (i.e., linguistic outcomes) affects their feelings (i.e., nonlinguistic outcomes) and that both types of outcomes will have an influence on individual-difference variables including language attitudes and motivation.

Motivation in this model is defined as the extent to which the individual works or strives to learn the language because of a desire to learn the language and the satisfaction experienced in this activity. A "motivated learner" is, therefore, defined as one who is: (a) eager to learn the language, (b) willing to expend effort on the learning activity, and (c) willing to sustain the learning activity (Gardner, 1985, p. 10). Motivation plays a significant role in this model in three ways. First, it mediates any relation between language attitudes and language achievement. Second, it has a causal relationship with language anxiety. Third, it has a direct role in the informal learning context, showing the voluntary nature of the motivated learners' participation in informal L2 learning contexts.

In his current model, Gardner (2000) focuses on motivation and language aptitude as the two most influential determinants of language achievement and shows how integrative motivation affects language achievement (see Figure 2). Moreover, this model predicts that the L2 learning situation could affect learners' attitudes and motivation.

Figure 2
The Role of Aptitude and Motivation in L2 Learning (Gardner, 2000)

Research Supporting Gardner's Model

Gardner's studies of motivation focus on investigating the cause of L2 achievement. Gardner and Smythe (1981) developed a self-report questionnaire called the Attitude/Motivation Test Battery (AMTB) as a tool to measure five attributes associated with L2 learning, four of which are assessed by subtests in the questionnaire:

1. Integrativeness (subtests: Attitudes toward French Canadians, Integrative Orientation, Interest in Foreign Languages),
2. Attitudes Toward the Learning Situation (subtests: Evaluation of the French Teacher, Evaluation of the French Course),
3. Motivation (subtests: Motivational Intensity, Desire to Learn French, Attitudes toward Learning French),

4. Language Anxiety (subtests: French Class Anxiety, French Use Anxiety), and

5. Instrumental orientation (no subtests).

Gardner's studies use the AMTB to measure individual-difference variables. The causal relationship among the variables in collected data are investigated using quantitative analyses such as Factor Analysis or structural equation modeling (Gardner, 2000).

Many studies have subsequently made use of various versions of the AMTB to conduct research into the role of motivation in SLA within Gardner's socio-educational framework in L2 learning contexts outside of Canada. Due to differences in their measurement tools, methods of analysis, and sociocultural contexts, the reported results have varied widely. The following factors have been identified as contributors to L2 proficiency: language aptitude (Gordon, 1980; Lett & O'Mara, 1990); motivation and attitudes (Lett & O'Mara, 1990); self-confidence (Clément, Gardner, & Smythe, 1977, 1980; Clément, Major, Gardner, & Smythe, 1977; Laine, 1977); attitudes toward the language course and classroom anxiety (Muchnick & Wolfe, 1982); and attitudes, motivation and language anxiety (Sison, 1991). However, integrative attitudes were not a significant contributor to motivation among Jewish students who study Arabic or French as a foreign language (FL) in Israel (Kraemer, 1990). Wudthayagorn (2000) adapted the motivation model from Tremblay and Gardner (1995) in the context of a Japanese Foreign Language in Elementary School (FLES) program. She found that their model needed to be modified.

Studies of motivation and attitudes have also shown the connection of the factors listed above to persistence in language study (Bartley, 1970; Clément, Smythe, & Gardner, 1978; Ramage, 1990) and also to learners' behavior in the language classroom (Gliksman, Gardner, & Smythe, 1982). Based on these empirical reports, Gardner and MacIntyre (1993) argue for the importance of the sociocultural context in studies of motivation. As Gardner and MacIntyre (1993) mention, it seems reasonable to conclude that motivation plays a primary role in L2 learning, while other attributes such as the context of L2 acquisition play supporting roles on various levels.

New Research Agenda Movement

A provocative article by Crookes and Schmidt (1991) called for a new research agenda involving L2 learning motivation. They criticized Gardner's socioeducational model for not focusing sufficiently on the L2 instructional context (Dörnyei, 2001a) and for being too limited in two ways:

1. Despite the large sample of subjects with whom Gardner and his associates usually work, their research is always based on one-shot questionnaires (i.e., data collected at one point in time) that are then examined in relation to the final achievement measures.

2. Integrativeness is not equally important for L2 achievement in classroom-based 'foreign' language instruction outside Canada.

Crookes and Schmidt claim that motivation is more complex and cannot be measured by a one-shot questionnaire because motivation changes due to a number of environmental factors in addition to integrativeness. Dörnyei (2001a, p. 105) claims that a more "educational orientation in L2 motivation research" is needed. The common belief underlying such an educational movement seems to be a focus on motivational sources closely related to the learner's immediate learning situation rather than their overall attitudes toward the target culture (i.e., integrativeness). In contrast to Gardner's (1985, p.169) claim that "the source of the motivating impetus is relatively unimportant provided that motivation is aroused," these reformists value the importance of identifying motivational factors within the learning situation to find ways to motivate students (Oxford & Shearin, 1994).

Dörnyei (1994) claims that L2 motivation is an eclectic, multifaceted construct; thus, it needs to include different levels to integrate the various components. Adopting Crookes and Schmidt's approach (1991), Dörnyei found it useful to separate L2 motivation into three motivational components (i.e., motives and motivational conditions): (a) language level, (b) learner level, and (c) learning situation level (see Figure 3).

Figure 3
Components of Foreign Language Learning Motivation (Dörnyei, 1994)

Language Level
  Integrative Motivational Subsystem
  Instrumental Motivational Subsystem
Learner Level
  Need for Achievement
  Self-Confidence
    Language Use Anxiety
    Perceived L2 Competence
    Causal Attributions
    Self-efficacy
Learning Situation Level
  Course-specific Motivational Components
    Interest
    Relevance
    Expectancy
    Satisfaction
  Teacher-specific Motivational Components
    Affiliative Motive
    Authority Type
    Direct Socialization of Motivation
      Modeling
      Task Presentation
      Feedback
  Group-specific Motivational Components
    Goal Orientedness
    Norm and Reward System
    Group Cohesion
    Classroom Goal Structure

Language level focuses on orientations and motives related to various aspects of the L2 such as the target culture and the potential usefulness of L2 proficiency. Learner level concerns affects and cognitions underlying the motivational processes. Learning situation level consists of intrinsic and extrinsic motives, plus motivational conditions concerning three areas: (a) course-specific components, (b) teacher-specific components, and (c) group-specific components. This model can be a useful framework not only for researchers and teachers to identify motivational sources but also to develop motivational strategies.

Research Conducted Under Reformists' Motivation Models

Research supporting the reformists' motivation models requires more in-depth investigation of L2 learning situations to explore possible motivational factors. This line of research, therefore, utilizes more longitudinal qualitative methods, in contrast to Gardner's cross-sectional quantitative research method. For example, in her four-year longitudinal study, Oldfather (1995) found that dominance of teacher-centered approaches and fewer opportunities for self-expression were two major factors influencing students' motivation for literacy learning. Ushioda's (1996, 1997) introspective approach to exploring students' L2 motivation, based on qualitative interview data, found that students' motivation had changed over time due to factors both internal and external to the L2-learning context.

Affective Benefits of CALL

Among the various hypothesized benefits of CALL, its positive effects on students' motivation have been most frequently reported. Chun (1994), Kern (1995) and Warschauer (1996a), for example, have investigated the effect of computer-assisted classroom discussion (CACD), as compared to face-to-face class discussion on university-level L2 students' opportunities to participate in discussion, their motivation and anxiety, turn-taking patterns, and so on. These studies found that CACD motivates student-initiated discussion more than teacher-initiated discussion and increased the number of opportunities for students to produce more output regardless of their individual personality differences. In the same vein, Warschauer (1996b) identified empowerment as one of the factors that motivated students in technology-mediated L2 writing classes. He hypothesized that students' perceptions of the possible benefits of Computer-mediated Communication (CMC), such as a sense of achievement and enhancement of learning opportunities, increased their motivation. Beauvois (1994) and Beauvois and Eledge (1996) reported extremely positive attitudes by intermediate French learners who perceived linguistic benefits, affective benefits, and interpersonal benefits from their experiences using CACD.

In a project reported by Jogan, Heredia, and Aguilera (2001), college students of advanced Spanish in the U.S. and college students of English in Chile exchanged email in both languages to learn about the target culture in the target language. These personalized student-driven dialogues appeared to motivate L2 learners to write about and learn about each other's cultures and, more important, to enjoy

the interaction/communication. The use of email may also have lowered students' affective filters, allowing them to write what they wanted to in less restrictive ways than in traditional L2 writing assignments.

Web-based assignments are reported to have positive effects on students' attitudes and motivation to learn about the target language and culture (e.g., Lafford & Lafford, 1997; Lee, 1997, 1998; Osuna & Meskill, 1998). Gruber-Miller and Benton (2001) also report on the MOO environment called "Vroma," a virtual Rome experience for learning Latin, as being successful in creating a program for students to be immersed in Latin language and culture simultaneously. Their students reported that they found the program to be a satisfying, useful, and motivating resource for learning Latin language and culture.

Van Aacken (1999) investigated the role of motivation and attitudes on learning kanji using a CALL program with six college-level learners of Japanese. Her results indicated that (a) the contents of CALL may have affected students' motivation and (b) students' positive attitude toward the CALL program was one of the most influential factors in their mastering kanji effectively. Despite the small sample, Van Aacken's study supports the argument for the importance of students' positive perception on the effectiveness of CALL.

Some L2 teachers have attempted to use various CALL activities to create technology-enhanced language learning (TELL) environments. Adair-Hauck, Willingham-McLain, and Youngs (1999) showed the effectiveness of a TELL learning environment for lowering students' anxiety level so that students could enjoy learning in a more relaxed atmosphere without the pressure of a classroom and peers. The authors argued that the results indicated that the TELL components motivated the students in the treatment group to learn actively on their own and enhanced their collaboration outside the classroom. The authors speculated that this is one of the possible reasons that the TELL group produced better quality writing assignments (i.e., longer and more complex writing) than the control group.

Research Conducted on Language Online Courses at Carnegie Mellon University

The first assessment study based on the pilot language online (LOL) course compared student learning, satisfaction, and time on task in the Elementary French Online course and the conventional face-to-face course (Chenoweth & Murday, 2003). The results indicated that LOL students made sufficient progress, comparable to that of their counterparts in a conventional course. Chenoweth, Jones, Murday, and Ushida (2003) reported assessment results for all of the LOL courses in French and Spanish since Spring 2000. The results indicated that learning gains in language skills were comparable between students in LOL courses and their counterparts in face-to-face courses. Some interesting themes emerged from the qualitative assessment obtained by focus group interviews and faculty course evaluations. First, it was found that LOL students seemed to have a desire to have tangible learning materials in addition to online materials. Second, students found

it difficult to self-direct their learning and, therefore, tended to procrastinate. Lastly, teachers as the main point of contact seemed to have a big impact on the student learning experience. Additionally, Ushida and Igarashi (2001) investigated the learning experiences of two LOL students' who kept learner diaries while taking Elementary French online and Elementary Spanish online. Content analysis of the diaries revealed that learners' experiences were influenced by group cohesion (e.g., distance among classmates), task purposefulness (e.g., authentic vs. nonauthentic), learners' audience awareness when engaging in assignments, and the nature of the teachers' feedback. Ushida (2002) also found that a LOL student's self-motivation helped her expend effort to study hard in the LOL course, and, in turn, the LOL course structure encouraged her to develop her metacognitive learning strategies to be a successful LOL student.

The assessment of the LOL project revealed the effectiveness of the courses in terms of students' gains in language proficiency. The qualitative research indicated that students' motivation and attitudes were related to the learning situation, although the exact nature of this relationship still remains unclear due to the lack of systematic research.

Despite L2 motivation models established by Gardner (1985, 2000) and more recent reformists (e.g., Dörnyei, 1994) that are supported by a number of empirical studies on motivation in L2 instruction, the issue of the effect of motivation on student learning has to date been little investigated within the CALL context in general, and even less in online-language-learning contexts. Provided the empirical reports on the benefits of CALL upon students' attitudes and motivation are correct, it is reasonable to examine the importance of students' attitudes and motivation on L2 development in this new teaching and learning context. Systematic research that is based on theoretical frameworks seems to be lacking. The present study aims to help fill this gap by conducting research to investigate the role of students' attitudes and motivation on L2 learning in a specific online language instruction context, that of LOL at Carnegie Mellon University, with the goal of identifying motivational factors within this new L2 learning situation. The following research questions were addressed in this study:

1. What are the patterns of motivation and attitude toward the study and learning of French and Spanish on the part of students who participate in LOL courses?
2. How do students' attitudes and motivation relate to their L2 learning in LOL courses?
3. What factors affect students' attitudes and motivation and thus, at least indirectly, their success in the study and learning of French and Spanish in LOL courses?

RESEARCH METHODOLOGY

Participants

The participants in this study were the students enrolled in Elementary French Online (EF), Elementary Spanish Online (ES), and Intermediate Spanish Online

(IS) courses in Fall 2002. Nine students were enrolled in EF, 14 students in ES, and 7 students in IS. The study also involved the course teachers and language assistants (LA) who engaged in LOL courses in order to obtain contextual information from different perspectives.

Students met as a class with the teacher once a week for 50 minutes, and all other activities were conducted outside class, either online or face to face. Each student met individually with the teacher or LA for 20 minutes for oral practice once a week, while studying language and culture individually using the online materials. Students studied independently according to a work plan that included participating in weekly online chat sessions and completing bulletin board assignments.

Data Collection

Complementary quantitative and qualitative data were collected for studying L2 motivation as a dynamic construct, as suggested by Dörnyei (2001a, 2001b). The data used for this project included: (a) background information, (b) measures of attitudes and motivation, (c) descriptive data for learning environments, (d) measures of learning behavior and course participation, and (e) measures of outcomes. Data collection took place over the course of the entire Fall 2002 semester.

Questionnaires

Three sets of questionnaires were administered to all the students in the project to investigate factors in students' background, attitudes, and motivations. First, to understand students' antecedent factors in terms of prior experience in language learning and technology, two types of background questionnaires were administered at the very beginning of the semester: a General Background Questionnaire (GBQ) and a Technology Background Questionnaire (TBQ).[1] The GBQ gathered demographic information such as age, major, native language, other languages, and reasons for taking the online course (see questionnaire in Appendix A). The TBQ gathered information concerning the students' experience using technology such as email, internet, chat, programming, and games (see questionnaire in Appendix B). Next, an AMTB designed for university students (Gardner, Tremblay, & Masgoret, 1997) was used to examine students' attitudes and motivation. Additional sections were also included on computer attitudes adapted from Gressard and Lloyd's (1986) Computer Attitude Scale and Beauvois's (1994) study on attitudes and motivation of university-level learners of French towards CACD activity. Subcategories in the modified AMTB included:

1. Attitudes toward French/Spanish Culture (6 items),
2. Attitudes toward Learning French/Spanish (8 items),
3. Desire to Learn French/Spanish (10 items),
4. French/Spanish Class/Course Anxiety (10 items),
5. French/Spanish Use Anxiety (10 items),
6. Interest in Foreign Languages (10 items),

   7. Instrumental Orientation (4 items),
   8. Integrative Orientation (4 items),
   9. Motivational Intensity (12 items),
  10. Computer Use Anxiety (5 items),
  11. Anxiety in Learning French/Spanish in the Online Course (6 items),
  12. Interest in the Use of Technology to Learn French/Spanish (10 items),
  13. Computer Confidence (6 items), and
  14. Evaluation of French/Spanish Teacher, and Evaluation of French/Spanish Course.

   The items were presented in a random order, followed by a 5-point Likert Scale for most items ranging from strong agreement (5) to strong disagreement (1). For the anxiety scales, larger values indicated higher anxiety levels. For evaluation of the course and teacher, semantic differential assessments (Gardner, 1985) were used with 7-point evaluative scales ranging from positive (7) to negative (1) evaluation. For the difficulty scale, larger values indicated less difficulty. Different versions were prepared for students of French and Spanish. Both version included the same items in the same order, differing only in language-specific wording (e.g., French vs. Spanish, francophone culture vs. Hispanic culture).[2]

   The AMTBs were administered twice in the semester as a pre- and posttest in order to identify changes over time. The first administration was conducted about three weeks after the semester had started by which time students had become familiar with the course and the enrollment had stabilized, and the second administration was conducted about three weeks before the semester ended. Lastly, with the teachers' agreement, the university's Faculty Course Evaluation (FCE) and the department's Supplemental Faculty Course Evaluation (SFCE)—modified slightly for LOL courses—were used to examine the students' evaluation of the course and the teacher.

Qualitative Data from the Learning Environment

An in-depth investigation of the learning environment within LOL courses was conducted by using multiple methods of qualitative data collection in order to find out as much as possible about the students' learning experiences. Data were collected via weekly class observation and interviews.

Measurement of L2 Learning Behavior/Course Participation

The degree of students' course participation was recorded based on the class attendance record, homework submission record, and participation in learning activities. For the participation in learning activities, the scope was limited to focusing on students' participation patterns for the weekly chat sessions, bulletin board discussion, and, if possible, email communication between students and teacher/LA since these activities made up most of the LOL course-specific activities. Class attendance was recorded during the classroom observation. Other course participation records were obtained in cooperation with the class teachers

and LAs. The teachers and LAs were asked to evaluate their students' homework submission, chat participation, bulletin board submission, and email communication using a form developed for this purpose by the researcher (see course participation form in Appendix C). These forms were distributed to the teachers and LAs three times during the semester, prior to the researcher's interviews with them at the end of the semester, and were used as prompts during the interviews to obtain more detailed information.

Measurement of L2 Learning Outcomes

Students' learning outcomes data were collected from the course-related scores such as the results of module tests, the final exam, the midterm grade, and the final grade. Also, students' oral skills were assessed by the classroom teachers at the end of the semester, using The Stanford Foreign Language Oral Skills Evaluation Matrix (FLOSEM) (Padilla & Sung, 1999) as a rating guide. The FLOSEM was selected because the nature of its design meant that teachers were not required to conduct oral tests outside class, nor did it require strict rater training like that required for Oral Proficiency Interviews.

Data Analysis

Research Question 1

Students' motivations and attitudes were analyzed by describing the results of the two AMTBs for each LOL course. First, the mean scores and standard deviations within a class were calculated for each variable (i.e., subcategories of AMTB items) to view overall results, then three statistical analyses were conducted to examine differences at the two points in time and across courses. Within-subject comparisons were used to compare the scores obtained at the two points. The tests considered the three courses as a single composite. Repeated-measure analyses of variance (ANOVA) were used to compare group gains over time across LOL courses. Lastly, ANOVA was used for each variable to compare students' motivation and attitudes among the three courses. When significant differences were found, Scheffé post hoc comparisons were computed for each of the variables to determine where the differences occurred.

Research Question 2

Most studies on L2 motivation within the socioeducational framework use factor analyses to investigate relationships among multiple factors. Factor analysis was found to be inappropriate for this research because of the small number of participants. Instead, correlational analyses were conducted between the students' motivation measurements obtained by AMTBs and indices of learning behaviors and learning outcomes as the criterion variable in order to examine relationships. Rating provided by different teachers and the LAs as well as the outcome measures were normalized across the three courses prior to analysis.

Research Question 3

In order to investigate how the LOL courses were implemented differently by the three teachers, course delivery formats were described for comparison among the three LOL courses based on the results of qualitative data.

RESULTS

Research Question 1

What are the patterns of motivation and attitude toward the study and learning of French and Spanish on the part of students who participate in LOL courses?

Students' motivation and attitudes across LOL courses measured by the AMTB are provided in Table 1. Data are included only for students who completed the questionnaires both at the beginning and the end of the semester.

Within-subject comparisons were made using students' motivation and attitudes in EF, ES, and IS at two points in time. Statistically significant differences were obtained for Attitude Toward French/Spanish Culture (A)($F = 7.46$, $df = 1, 20$, $p = .01$) and French/Spanish Class/Course Anxiety (D)($F = 5.19$, $df = 1, 20$, $p = .03$).

Next, repeated-measures analyses of variance (ANOVA) compared group gains over time across the LOL courses. The ANOVA test found significant differences for Course General (CG)($F = 4.02$, $df = 2, 20$, $p = .03$) and Course Difficulty (CD)($F = 3.62$, $df = 2, 20$, $p = .05$).

Lastly, ANOVAs compared students' motivation and attitudes among the three LOL courses for each variable. The ANOVA results showed statistically significant differences in French/Spanish Class/Course Anxiety (D)($F = 3.78$, $df = 2, 20$, $p = .04$) and all variables of teacher evaluation (Teacher General [TG]: $F = 19.71$, $df = 2, 20$, $p = .00$; Teacher Competence [TC]: $F = 7.78$, $df = 2, 20$, $p = .00$; Teacher Inspiration [TI]: $F = 13.14$, $df = 2, 20$, $p = .00$; and Teacher Rapport [TR]: $F = 15.21$, $df = 2, 20$, $p = .00$). The results of Scheffé post hoc comparisons showed that all of the differences occurred between the French course and the Spanish courses (both elementary and intermediate levels).

Research Question 2

How do students' attitudes and motivation relate to their L2 learning in LOL courses?

The relationship between students' attitudes and motivation and students' L2 learning in LOL courses was examined by investigating motivation scores, learning behavior indices, learning outcomes indices, class observation records, email diaries, and interview data from the teachers and the LAs. Motivation scores were correlated with learning behavior indices and learning outcomes. Table 2 displays the results of the correlation analysis.

Table 1
Means and SDs of Measurements of Students' Motivation and Attitudes

Code	Variables	EF (n = 8)				ES (n = 10)				IS (n = 6)			
		AMTB 1		AMTB 2		AMTB 1		AMTB 2		AMTB 1		AMTB 2	
		Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
A:	Attitudes toward French/Spanish culture	3.29	(1.01)	3.54	(0.84)	3.93	(0.63)	4.03	(0.78)	4.25	(0.38)	4.47	(0.46)
B:	Attitudes toward learning French/Spanish	3.98	(0.74)	3.92	(0.97)	4.28	(0.44)	4.20	(0.71)	4.04	(1.30)	4.17	(1.14)
C:	Desire to learn French/Spanish	3.90	(0.73)	3.90	(0.81)	4.03	(0.54)	4.07	(0.63)	4.03	(0.88)	4.28	(0.87)
D:	French/Spanish class/course anxiety	3.21	(0.62)	3.05	(0.54)	2.95	(0.47)	2.74	(0.49)	2.70	(0.62)	2.37	(0.51)
E:	French/Spanish use anxiety	2.99	(0.55)	2.99	(0.67)	2.70	(0.55)	2.60	(0.65)	3.03	(0.79)	2.65	(0.90)
F:	Interest in foreign languages	4.00	(0.73)	4.11	(0.71)	4.42	(0.47)	4.22	(0.68)	4.48	(0.48)	4.32	(0.64)
G:	Instrumental orientation	3.56	(0.73)	3.25	(0.48)	3.53	(0.92)	3.53	(0.90)	3.17	(0.72)	3.13	(0.95)
H:	Integrative orientation	3.25	(0.80)	3.63	(0.60)	3.85	(0.76)	3.45	(1.00)	3.71	(0.90)	3.58	(1.25)
I:	Motivational intensity	3.55	(0.57)	3.33	(0.55)	3.73	(0.68)	3.62	(0.71)	3.65	(1.25)	3.50	(1.16)
J:	Computer use anxiety	1.73	(0.56)	1.64	(0.34)	1.91	(0.46)	1.81	(0.68)	1.77	(0.85)	1.65	(0.53)
K:	Anxiety in learning French/Spanish in the online course	2.35	(0.74)	2.21	(0.41)	2.28	(0.73)	2.22	(0.64)	1.72	(0.59)	1.64	(0.52)
L:	Interest in the use of technology to learn	3.74	(0.67)	3.96	(0.40)	3.91	(0.66)	4.09	(0.61)	3.93	(0.83)	4.31	(0.78)
M:	Computer confidence	4.44	(0.62)	4.52	(0.55)	4.52	(0.59)	4.60	(0.44)	4.28	(0.83)	4.31	(0.78)
TG:	Teacher general	5.40	(0.82)	5.60	(0.40)	6.64	(0.37)	6.77	(0.28)	6.60	(0.62)	6.78	(0.20)
TC:	Teacher competence	5.83	(0.62)	5.73	(0.51)	6.42	(0.54)	6.74	(0.31)	6.40	(0.61)	6.57	(0.46)
TI:	Teacher inspiration	4.93	(1.13)	5.20	(0.81)	6.14	(0.53)	6.40	(0.71)	6.60	(0.38)	6.92	(0.18)
TR:	Teacher rapport	5.08	(1.10)	5.78	(0.80)	6.56	(0.56)	6.72	(0.33)	6.63	(0.39)	6.83	(0.20)
CG:	Course general	5.31	(0.85)	5.49	(0.79)	6.14	(0.57)	5.72	(0.63)	5.32	(1.70)	5.73	(1.42)
CD:	Course difficulty	4.45	(1.57)	4.15	(1.49)	3.98	(0.99)	4.26	(0.58)	3.53	(0.99)	4.73	(1.32)
CI:	Course interest	4.75	(1.18)	4.89	(0.91)	5.76	(0.53)	5.74	(0.68)	5.03	(1.79)	5.30	(1.59)
CU:	Course utility	5.25	(0.83)	5.38	(0.51)	6.04	(0.79)	5.58	(0.78)	5.63	(1.93)	6.07	(1.24)

Note: EF = Elementary French, ES = Elementary Spanish; IS = Intermediate Spanish

Table 2

Correlation Between Students' Motivation Scores and Learning Behavior and Learning Outcomes

Variable	AMTB 1	AMTB 2
Learning behavior	-.29	-.38
Attendance	.08	.15
Homework submission	.07	.12
Online chat (teacher)	.58*	.59*
Online chat (language assistant)	.12	.31
Bulletin board (teacher)	-.21	-.08
Email communication (teacher)	.13	.26
Individual meeting (teacher)	.23	.25
Individual meeting (language assistant)		
Learning outcomes		
Module tests	.39*	.52**
Midterm grade	.19	.19
Final exam	.06	.22
Final grade	-.01	.21
Oral skill	.08	.17

*$p < .05$. **$p < .01$.

A modest nonsignificant correlation was observed between students' motivation scores and attendance rate and between students' motivation scores and teachers' ratings of students' email communication. The highest correlation was found between students' module test results and their motivation at the end of the semester ($r = .52$, $p < .01$). Other significant correlations were found between students' module test results and their motivation at the beginning of the semester ($r = .39$, $p < .05$), and between LAs' rating of students' performance for online chat sessions and students' motivation at the beginning of the semester ($r = .58$, $p < .05$) and also at the end of the semester ($r = .59$, $p < .05$). Interestingly, teachers' ratings of students' performance for online chat sessions were not as highly correlated as the LAs' ratings.

Research Question 3

What factors affect students' attitudes and motivation and thus, at least indirectly, affect their success in the study and learning of French and Spanish in LOL courses?

The qualitative data was gathered and described to illustrate the way in which

each teacher's implementation of the LOL course influenced students' immediate learning situations. Table 3 summarizes differences in how each teacher utilized the LOL course framework.

Table 3
Comparison of Course Delivery

	EF (n = 9)	ES (n = 13)	IS (n = 7)
Weekly class			
Days	Thursday	Wednesday	Tuesday
Time	6:30-7:20	6:30-7:20	6:30-7:20
Attendees	T, LA, Ss	T, Ss	T, Ss
Typical structure	1. Q-A 2. (after class) administrative	1. administrative 2. lesson plan 3. activity(-ies)	1. administrative 2. warm-up, Q-A 3. activity(-ies)
Content	grammar	grammar conversation activity	grammar conversation activity
Interaction	T-C, T-S	T-C, T-S, S-S	T-C, T-S, S-S
Number of module test			
In-class	3	2	1
Outside	2	3	2
Individual meeting			
Partner	T, LA, classmate(s)	T, LA	T, LA
Topic	Yes	Yes	Yes
Grading	No	No	No
Location	T: language lab LA: Baker Hall lounge	T: testing room LA: Hunt library	T: office LA: University Center lounge
Online chat			
Length/week	60 minutes x 1	10 minutes x 3	60 minutes x 1
Days	Monday night (with LA)	Monday afternoon (with LA) Monday night (with teacher) or anytime (with classmates)	Thursday night (with LA)
Topic	No	Yes	Yes
Grading	No	Yes	No

Note. T = teacher, S = student, C = class, LA = language assistant.

The EF teacher focused on grammar in class because she was concerned about students' performance on the exams. Therefore, the classroom interaction was generally limited to the teacher asking the entire class or individual students grammar-specific questions. Observing that some students did not come prepared

for class and that others were overwhelmed, she concluded that this course was hard to teach and hard for students, particularly if they had no prior knowledge of the language. She also felt that if the students have no prior learning experience, they need to be *really* (original emphasis) motivated.

The ES teacher focused on guiding individual students to *use* the course for directing them to the right strategies by making the online materials "salient." She designed activity-based lessons for selected items which needed to be more salient in class. The type of activities varied in terms of difficulty level and focus, including grammar and conversation practice. Most activities were done in pairs or groups. Although she was suspicious how anyone could learn a language from scratch in the online course, she had an opportunity to see her students' learning. She observed that students with good learning strategies learned Spanish incidentally from the large amount of *written* information provided online and her feedback to students' learning activities.

The IS teacher focused on helping students study in the LOL course. Every class started with scheduling individual meetings and a question-answer session, followed by getting students to use the target sentence structures in context so that they could see the sentences and manipulate them on their own outside of class. Knowing how important it can be to meet the students once a week, she struggled to find ways to make the best use of this time. Therefore, she tried to provide variation in types of activities, interaction, and people to work with. She mentioned that the individual meetings were the strength of the LOL courses and also her favorite part of teaching.

Although the courses were delivered in a similar manner across the three LOL sections, each LOL course was taught differently using different content and pedagogical approaches, the researcher's end-of-semester interviews revealed that the EF teacher perceived this experience less positively than the ES and IS teachers.

DISCUSSION

Students' Motivation and Attitudes toward Learning French and Spanish within LOL Courses

The results of this study indicated that students' motivation and attitude toward the study and learning of French or Spanish were relatively positive and appeared to be quite similar across the LOL courses. Similarities of students' motivation across different language groups (elementary French, German, and Spanish) were also reported by Hotho (2000). The similarity found in the present study might result from the fact that students in this study, except for one, self-selected to take the LOL courses; and all students were confident with the use of computers. Students, in general, evaluated the teachers and courses positively.

Students appeared to retain their positive motivation and attitudes over the 15-week semester. First, results showed that students' attitudes toward French and Spanish culture grew more positive over time in all three courses. This finding supports the affective benefits of CALL mentioned in the beginning of this article

and is particularly welcome for the LOL content developers because it seemed to reflect the students' experiences with well designed course materials. Both EF and ES students learned about the target culture only through the module materials and cultural assignments such as watching a Spanish movie or doing a web search on a francophone country to write a report. The IS course integrated the culture component with other language learning. For instance, when students read about Spanish bull fighting, they had to do reading-comprehension exercises and writing assignments on the subject and had to talk about it during the online chat session that week. Such cultural learning materials and assignments apparently contributed to an improvement in students' attitudes toward the target culture.

Next, it was observed that students tended to have relatively high anxiety about the LOL course at the beginning of the semester, suggesting that students may have perceived the LOL environment, at least initially, to be uncomfortable as a context for learning. This result seems to contrast with the claims made about the effectiveness of CMC activities (e.g., Chun, 1994; Kern, 1995) and the TELL environment (Adair-Hauck et al. 1999) for lowering students' anxiety level. Unlike the findings of Taylor, Jamieson, Eignor, and Kirsch (1998), learners' familiarity with computers was not an important precondition for effective learning in the LOL context. This finding is especially interesting because students were familiar with the use of the technology including the Internet, online chatting, emailing, and so forth in their studies; however, they did not always successfully transfer their technology skills to this new environment. Therefore, it was perhaps not a lack of computer familiarity that aroused students' anxiety, but rather their lack of familiarity with the specific LOL learning environment.

Students are accustomed to learning a language in face-to-face traditional classes where they meet their teacher and classmates regularly to learn and practice the language. It has been a generally accepted assumption that language is acquired by using it in a sociocultural context. Meeting with the teacher and classmates in class once a week in LOL can be fun and enjoyable, but also worrisome and discouraging in two ways. First, it was observed that LOL courses made it difficult for students to get to know each other. In traditional elementary language classes, for example, students meet four times a week. Students get to know each other, remember each other's names, and start talking by the end of the first week. It took four times longer (i.e., about one month) for LOL students to do the same thing. Meeting the same people four days a week helps to decrease interpersonal distance much more effectively than meeting four times a month. Since the first AMTB was administered in week 3, an affectively comfortable classroom atmosphere may not have been established at that time because of the distant interpersonal relationships among classmates.

Another source of students' anxiety might have come from their lack of familiarity with authentic communication. Infrequent human interaction is widely perceived as an inherent drawback of online courses (Trotter, 2002). LOL students were used to clicking and listening to prerecorded sounds, often accompanied by written input, that is, they were used to hearing predictable speech. Further, they did not typically need to reply to this audio input; rather, they tended to be pas-

sive listeners when they interacted with the online materials. When they heard the teacher speaking in the target language in class, some may have frozen because they were not used to hearing unprescribed sentences from a person. They either could not understand what they heard or did not know how to respond.

Students' anxiety, however, had decreased significantly by the end of the semester. It would be interesting in a subsequent study to find out when students started to feel comfortable with the LOL learning environment.

The Role of Motivation

The results of the correlational analyses indicated that students who had positive motivation and attitudes toward language study tended to do well on the module tests and to participate actively in online chat sessions with the LA. Students' learning behaviors were rated by teachers and language assistants subjectively, thus their ratings were not always the same. However, it was interesting and useful to hear how the LAs felt about the students' participation in online chat sessions and individual meetings since their evaluations were generally not used for grading purposes. Therefore, students who cared only about their grades may have discounted the presence of the LAs, while students who desired to learn French or Spanish thought of the LAs as learning resources.

The findings from this study provided some evidence that motivated students studied regularly and productively in order to take every opportunity to perfect their language skills in the LOL course. That is, LOL students who had positive motivation and attitudes toward the study of French and Spanish were able to control their learning even though they had to study mostly on their own. Since module tests were considered as one of the learning outcome measures in the study, this result suggests that a positive relationship between students' motivation and attitudes and achievement was present in the LOL context. However, students needed to keep reminding themselves about the module test schedule and to study regularly for these tests which took place every three weeks. Thus, module tests, unlike the final exam, required students' use of voluntary study habits — continuously monitoring their progress and keeping track of when the module tests were scheduled. Although a statistically significant correlation was not found between students' motivation and attitudes and other achievement measures such as final exam scores and final grades, the lack of correlation may have been due to students having acquired "test-taking skills" by the time of the final exam. Other external factors may have been involved in determining students' final learning outcomes, as Gardner (2000) anticipated.

Chat sessions also required students' voluntary participation. Students had to remember the time and date of the chat sessions, log in to the chat room punctually, participate in the chat for the scheduled hour, and engage in the chat conversation with the LA and classmates while the teacher was absent. It was difficult for some students to participate because they were not as accustomed to attending weekly online chat sessions as attending classes. The chat sessions required particularly strong determination on the part of EF and IS students because they

were not graded on the quality of their chat conversations. That is, the differences between the students who chatted for only 5 minutes and those who chatted for the entire hour must have resulted from a strong desire on the part of some to chat in the target language because of the perceived intrinsic value and enjoyment derived from this activity. This observation is similar to that of Gliksman, Gardner, and Smythe (1982) who found that integratively motivated students were more satisfied and rewarded for their class participation throughout the duration of the course than other students. In this regard, students' participation in the online chat sessions served as a good predictor for determining their motivation to study the target language.

The Importance of Teachers

Teacher-specific motivational components emerged as crucial factors when students evaluated the learning situation in LOL courses, as is often stressed in CALL literature for the effective use of the technology (e.g., Belz, 2003; Glisan, Dudt, & Howe, 1998; Hertz, 1987; Jones, 1986).

The results of the statistical analyses and students' course evaluations suggest that EF students had a less positive language-learning experience than students in the other LOL courses and that the teacher variable may have been the main source of this difference. In fact, the students reported in the course evaluations that the teacher was the center of their satisfaction in the LOL courses (Ushida, 2003). This result is similar to that of Wudthayagorn (2000) who found a positive correlation among students' attitudes toward the teacher, classes, learning, and behavioral attitudes among young learners of Japanese. These results suggest that if students like the teacher, they enjoy the class, are satisfied with their learning experiences, and have positive behavioral attitudes toward the study of the target language regardless of the instructional format (i.e., traditional face-to-face, online, or hybrid).

These results indicate that teachers can be influential in affecting students' motivation and attitudes and in creating a learning community in which students can study a language with less anxiety. Teachers seemed to play the most important role in shaping the culture of the LOL class. It was the teachers who decided how to use or implement the course materials for the class. They had to make a variety of decisions during the course, affecting how and what they did during their once-a-week class and their 20-minute individual meetings, and how they instructed or guided students and LAs to do the required activities. Naturally, teachers' instructions influenced how students studied for this course and how students worked with their classmates and LAs. All of these elements created a culture for each class, and consequently influenced students' attitudes and motivation.

The biggest inherent disadvantage of online courses is reported to be reduced interaction between teachers and students (Trotter, 2002). Thus, the importance of human interaction has been repeatedly emphasized for successful online course delivery regardless of the subject (Gilbert, 2001; Hiss, 2000; Lewis, 2000; White, 2000). Unlike traditional classes where teachers use various teaching strategies to

engage their students in learning the subject matter interactively and effectively, online course structures seem to limit the use of such teaching strategies. The results of this study suggest that successful LOL teachers used various teaching strategies to maintain good interaction with students without fully relying on students' self-motivation and responsibility (Ushida, 2003). Teachers' accounts implied that the process of teaching LOL courses was still new, therefore difficult, but that it could also be challenging and profound.

CONCLUSION

This study empirically investigated the role of students' motivation and attitudes on the study of French or Spanish in LOL courses based on two commonly used frameworks for L2 motivation: those of Gardner and MacIntyre (1993) and Dörnyei (1994). Both frameworks were found helpful to interpret the results of the study.

Procrastination has been frequently reported as one of the critical problems for online students (e.g., Gilbert, 2001; Murday & Ushida, 2002). Courses like LOL may make regular study difficult for students who cannot wisely direct their own learning processes. To put it another way, the LOL courses can offer flexibility in terms of pace of learning and how to learn; yet, at the same time, not all students can take advantage of such a learning environment and may find it difficult to manage their own learning. It seems that there is a sort of dynamic tension between the learning materials that students have to work with and how they approach them, which course developers and/or teachers cannot predict.

Motivated students can take advantage of the LOL instruction, and effective LOL instruction can motivate students. Indeed, "good instruction is good instruction, regardless of the delivery system" (Bush, 1997, p. 302). More research is needed to better understand the ways in which technology-based language courses can be most effectively implemented. Additional study of motivation and motivational factors would seem to be clearly warranted to help establish effective online CALL.

NOTES

[1] Both questionnaires were developed for the Language Online assessment project (see Chenoweth & Murday, 2003). The GBQ was adapted from an original questionnaire that G. R. Tucker developed with his students in the course called "Social and Cognitive Aspects of Bilingualism" a number of years ago.

[2] Copies are available from the author.

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APPENDIX A

General Background Questionnaire

Name _____ Email _____

Sex _____ Age _____ Country of birth _____

Academic Year at CMU: FR SO JR SR 5th-yr.SR GRAD Other _____

Major(s) _____ Minor(s) _____

1. What do you consider to be your native language(s)?

2. What language did you speak while you were growing up?

3. What other language(s) did people close to you speak while you were growing up?

4. What other language(s) can you use? Please list and comment on your fluency in each (for speaking, listening, reading, and writing). How many years of experience have you had with each language?

5. What language courses have you taken at CMU? Begin with the one(s) you are currently enrolled in.

6. What other second language learning experiences have you had? (residence in a non-English speaking country, study abroad, vacations, etc.)

7. Why are you taking Elementary French I? Please check all that apply.

❑ To fulfill a requirement   ❑ Because of my family history
❑ Because I like learning languages   ❑ To be able to read menus
❑ To go abroad   ❑ To be able to read literature in French
❑ For my career   ❑ To sound sophisticated
❑ Because my family speaks it

❑ Other (please specify): _____

8. Why did you choose to take *this section* of the course? Please check all that apply (in both parts).

❑ Because of conflicts with my other courses
❑ Because I prefer the time that this section is offered
❑ Because I know someone in this section
❑ Because of the instructor
❑ Because I enjoy using computers
❑ Because I wanted to try a new way to take a course
❑ Because I don't want to attend class 4 days per week
❑ Because I don't like being called on in class
❑ Because I think I can practice French more on the computer
❑ Other (please specify): _____

9. What do you expect to get out of this course? What are your goals? Be as specific as possible.

APPENDIX B

Technology Background Questionnaire (TBQ)

Name _____ Email _____

1. Do you own a computer?   YES   NO
2. In what one location do you generally use a computer? (in your room, in a cluster)

_____

3. Are you generally comfortable using a computer?   YES   NO

4. How long have you been using a computer?

❑ Less than 1yr.   ❑ 3-4 years   ❑ 7-8 years   ❑ 11+ years
❑ 1-2 years   ❑ 5-6 years   ❑ 9-10 years

5. How many hours do you use a computer in a typical day?

❑ 1-2 hrs/day   ❑ 5-6 hrs/day   ❑ 9-10 hrs/day   ❑ 13+ hrs/day
❑ 3-4 hrs/day   ❑ 7-8 hrs/day   ❑ 11-12 hrs/day

6. How much of your time using a computer is for schoolwork/job, and how much just for fun?

❑ 100% work   ❑ 75% work   ❑ 50% work   ❑ 25% work   ❑
                   25% fun   50% fun   ❑ 75% fun   100% fun

7. How often do you use the computer for the following activities? (choose all that apply)

	Just tried it	On occasion	1-3 hrs/wk	4-6 hrs/wk	7-9 hrs/wk	10-12 hrs/wk	13+ hrs/wk
Email							
Web/internet (searching, surfing, shopping, etc.)							
Bboards or newsgroups							
Web chat							
Games							
Listservs							
Word processing							
Programming (including web page design)							
Other schoolwork							
Other (please specify): _____ _____							

8. Do you think using computers for email, b-boards, chat, etc., brings people closer together, or makes them more isolated?

❑ Extremely   ❑ very   ❑ somewhat   ❑ no   ❑ somewhat   ❑ a lot   ❑ extremely
isolated   isolated   isolated   difference   closer   closer   close

9. Do you regularly get together with a group of people online?   YES   NO
   If yes, based on what common factor?

   ❑ students
   ❑ family members
   ❑ hobbies
   ❑ fan clubs
   ❑ friends
   ❑ games
   ❑ other (please describe): _____

10. How does this online community function? (how do you maintain contact with one another, how are new members recruited, what sort of activities do you participate in together (online)?)

11. Do you have any experience with non-traditional learning formats (like a correspondence course, teleconferencing, video lectures, web-based classes)?
YES   NO

12. If yes, estimate how many months of these experiences altogether: _____

13. What did you like about the experience? What did you dislike?

14. Are you taking any (other) online courses this semester? If so, what subjects?

APPENDIX C

Evaluation of Students' Course Participation

Class: _____
Date: _____
Name: _____

INSTRUCTIONS
Please evaluate the quality of your students' course participation regarding the listed activities using the scale provided. Circle one number in each column. If you have any students who you are concerned about or impressed with, please add your comments regarding their behaviors.

Excellent   5   4   3   2   1   Poor

Student names	Homework submission	Chat participation	Bboard participation	Email communication	Comments
e.g., John	5 4 3 2 1	5 4 3 2 1	5 4 3 2 1	5 4 3 2 1	
Mary					
Jim					

AUTHOR'S BIODATA

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