The Role of Asynchronous Computer Mediated Communication on Enhancing Cultural Awareness

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This study investigates the effect of CMC participation on language learners’ willingness to learn more about the target culture through study abroad. Also, it seeks to discern whether CMC activities improve language learners’ self-perception that they have learned more about the target culture. An experimental group of 23 U.S. university students engaged in CMC with Mexican university students with a control group of 38 students from the U.S. university. We administered a questionnaire grouped thematically around seven topics. The data suggest that CMC may have a more positive effect on the acquisition of cultural awareness of students that engage in CMC than on those who do not. A conclusion could be drawn that CMC is most effective for increasing awareness about the topic of current events, followed by daily life and educational systems. The most significant increase in the experimental group’s perceived awareness of culture was in the students’ changing point of view about current events, ability to name two possible majors of a Hispanic student, acquisition of first-hand information about daily life in a Hispanic country, and knowledge about what a Hispanic college student does for fun. In addition, the majority of students in both groups agreed that knowing someone personally in a particular country would make them more inclined to study abroad. The conclusions are significant in that they suggest how CMC not only may expand cultural awareness of selected topics, but also likely augments student desire to study abroad.

Introduction

Studies have shown that asynchronous CMC with native speakers in foreign language classrooms is a valuable tool for language learning (Abrams, 2003; Beauvois, 1997; Call & Sotillo, 1995; Hertel, 2003; Oliva & Pollastrini, 1995; Schwartz, 1993) placing the language learners in contact with real audiences, and providing them with authentic language experiences (Urdal, et al., 1996). Studies have also shown that asynchronous CMC is a useful means for promoting cross-cultural communication, although it may sometimes hinder learners’ perceptions of the target culture (Meagher & Castaneda, 1996) and may even impede intercultural communication (Ting-Toomey, 1999).

Early studies on CALL tended to focus on linguistic and affective characteristics of CMC in single classrooms (Beauvois, 1992; Chun, 1994; Condon & Cech, 1996; Herring, 1996; Kelm, 1992; Kern, 1995; Ortega, 1997; Warschauer, 1996) the basis of which were from the interactionist perspective of second language acquisition theory. 1 Subsequent to this was a focus on the acquisition of cultural awareness rather than on language learning (Bee-Lay & Yee Ping, 1991; Cononelos & Oliva, 1993; Cummins & Sayers, 1995; Gray & Stockwell, 1998; Kendall,
In this study we focus on CMC, the process of students directly sending text-based messages via computers and communication networks to recipients (Lawley, 1994). More specifically, we focus on asynchronous CMC, the feature that allows learners to ‘‘type extended messages which are electronically transmitted to recipients who can read, reply, print, forward or file them at their leisure’’ (Mann & Stewart, 2000, p. 2).

Computer Mediated Communication and Cultural Studies

It has been suggested that CMC provides an ideal medium for students to benefit from interaction, since the written nature of the discussion allows greater opportunity to attend to and reflect on the form and content of the communication (Kern et al., 2004). An integral part of interaction is negotiation for meaning, especially when those negotiations focus the learner’s attention on problematic input. Interactional input provides a forum for learners to readily detect a discrepancy between the learner language and the target language. Such awareness of the mismatch serves the function of triggering a modification of existing second language knowledge (Gass & Varonis, 1994). Although the occurrences of meaning negotiation may necessitate willingness to maintain prolonged engagement in interaction (Ware, 2003), CMC still provides a model medium in circumstances in which native speakers are not readily available.

Practical advantages of CMC have been discussed in the realm of online research, but the same advantages can be extended to language learners. These may include extended access to participants, wide geographical access, hard to reach populations, cost and time savings, among others (Mann & Stewart, 2000). An advantage particular to the foreign language classroom is that CMC allows for improved attitudes towards cultural studies (Fraser, 1999; Warschauer, 1996), engages students in learning through social interaction that enables them to learn about a 152 E. Zeiss and C. L. Isabelli-García culture other than their own (Liu, 2002), and provides current authentic content based materials. These interactive technologies allow students the opportunity to interact with each other and with native speakers in order to help develop their second-language proficiency through the sharing of cultural knowledge (Lafford & Lafford, 1997). See Mann and Stewart (2000) for a thorough discussion on the challenges of using CMC in the classroom and in research.

Studies have shown that asynchronous CMC with native speakers in foreign language classrooms is valuable as a tool for language learning (Abrams, 2003; Beauvois, 1997; Call & Sotillo, 1995; Hertel, 2003; Oliva & Pollastrini, 1995; Schwartz, 1993) placing the language learners in contact with real audiences and providing them with authentic language experiences (Urdal et al., 1996). Other studies have also shown that bilingual email, one type of asynchronous CMC, is a useful means for promoting cross-cultural communication. Exposure to target language communities through email exchanges can promote increased cross-cultural
awareness and interest among L2 learners in the target language communities (Moore, Morales, & Carel, 1998), improve knowledge about and commitment to a target culture (Jogan, Heredia, & Aguilera, 2001), and even elicit underlying cultural assumptions and modify existing stereotypes, promoting more sensitive and complex views of the host culture (Furstenberg, Levet, English, & Maillet, 2001; Itakura, 2004).

Although the majority of asynchronous CMC research has constituted of email as the interactive tool of choice (Lawrence, 2002; Stockwell & Levy, 2001; Torii-Williams, 2004) the fact remains that, regardless of the preferred tool, asynchronous CMC does provide for an authentic language experience. CMC allows for students to develop empathy with their peers in other cultures and engages students through more personalized learning (Silva, Meagher, Valenzuela, & Crenshaw, 1996). More generally, research shows that CMC has a positive effect on students’ attitudes towards the target culture (Ma, 1996). Students who engage in intercultural CMC regularly are better informed about the culture of their communication partners than are those who do not (Ma, 1996).

Gray and Stockwell (1998) also investigated the effect of CMC in a protocol designed to facilitate enhanced intercultural awareness. There was no data, however, to indicate what exactly was enhanced. Other research indicates that the learner’s perception of the target culture may be less positive after, rather than before, a CMC cultural exchange (Meagher & Castaños, 1996), that the number of email assisted intercultural projects may impede intercultural communication (Ting-Toomey, 1999), and that technology can both enable or constrain learning in this environment (Khine, Yeap, & Chin Lok, 2003). Meagher and Castaños (1996) studied the impact of CMC cultural exchange on Mexican high school students’ perceptions of American culture. The authors’ results indicate that the high school students’ ‘‘perception of American culture was less positive after than before the CMC cultural exchange’’ (p. 200). Other studies demonstrated that cross-cultural understanding did not automatically result from online communication (Fischer, 1998; Kern, 2000; Kinginger, Gourves-Hayward, & Simpson, 1999).

However interesting the findings of studies that look at the advantages and challenges of the implementation of asynchronous CMC in the foreign language classroom to learn about the target culture may be, here we are interested in discovering what the outcomes of CMC activities might be beyond classroom walls. Moreover, we are interested in language learners’ increased commitment to learn more about the target culture as a result of participation in CMC activities—that is, do CMC have a positive effect on the learner’s commitment to learn more about the target culture? Do CMC activities create cultural bridges to the target culture by increasing the learner’s desire to immerse him or herself in that culture?

The purpose of this study is to provide quantitative data on the impact that online interactions with native speakers may have on learners’ awareness of the target culture, desire to learn more about that culture, and willingness to study abroad. More specifically, this study provides evidence for whether the participation of North American university students in interactive online technology with students from Mexico increases cultural awareness of certain aspects of that society and whether such involvement increases desire to learn more about the target culture through study abroad. The findings of this study add to the literature on the impact of CMC...
on learner attitudes and to what is known about the acquisition of cultural knowledge through CMC.

**Method**

The experimental group, consisting of 23 students from a small East Coast university in the US, participated in three CMC cultural exchanges throughout the course of an academic semester. Their counterparts were students from a large private university in northern Mexico from the same socioeconomic level. At the time, the students in the experimental group were in two sections of an intermediate-level Spanish language course taught by the same instructor. Meanwhile, the control group, consisting of 38 students from the same US university, took the same level Spanish course, used the same textbook and followed the same syllabus as the experimental group. The authors chose which sections were to comprise the experimental and control groups. Both groups received their cultural information through textbook readings and a Spanish-language soap opera series, Destinos. However, only the experimental group received extra cultural information through the CMC exercises with their Mexican counterparts. Table 1 shows the profiles of the two participant groups for the present study.

The control group and experimental group’s language backgrounds may be assumed to be similar since the requirements for the Spanish class they attended were identical. In addition, few of the participants in the experimental group had previous experience using electronic bulletin board technology prior to their participation in this experiment.

The experimental group participated in three CMC activities; in two they used their native language, English, and in one they wrote in the target language, Spanish. Each CMC cultural exchange consisted of making six postings on a given topic to an

<table>
<thead>
<tr>
<th>Participant groups</th>
<th>Interaction type</th>
<th>Background</th>
<th>Language level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental, n = 23</td>
<td>CMC cultural exchanges, textbook reads, <em>Destinos</em></td>
<td>Fulfilling language requirement</td>
<td>Intermediate</td>
</tr>
<tr>
<td>Control, n =38</td>
<td>Textbook readings, <em>Destinos</em></td>
<td>Fulfilling language requirement</td>
<td>Intermediate</td>
</tr>
</tbody>
</table>

Table 1. Participant profile summary

The initial posting involved writing 10 lines or more about a given topic. Once the initial opinions were posted, students read each other’s postings and responded to them. The subsequent postings created a type of conversation amongst the
participants over the course of the two to three weeks allotted for the assignment. The topics were: (1) getting to know each other; (2) current events and the media; and (3) Hispanic holidays and food. Both the experimental group and their Mexican counterparts received grades for their participation, while in both the experimental and control groups the students’ acquisition of cultural knowledge gleaned through Destinos was assessed by true/false answers about Destinos on exams. Cultural knowledge obtained through the textbook was generally gauged by the inclusion of readings included in those same tests. Towards the end of the semester, after the third set of postings was concluded, the experimental and control groups signed an informed consent form and were asked to complete a self-perception questionnaire.

The questionnaire was designed to find out whether CMC cultural exchange is an effective tool for increasing: students’ awareness of the target culture; motivation to learn more about each topic; and interest in studying abroad. Please note that the questionnaire in no way ascertains whether students in fact learned more about Hispanic culture. At the U.S. university where the study took place, students had and continue to have few opportunities to interact with people from the target culture. Moreover, at the time of the study (Fall 2001), the study abroad trip to Mexico had been cancelled for two years in a row due to lack of student interest.

The questionnaire, made up of 36 questions, is thematically organized by seven topics including awareness of: the educational system, daily life, food, and current events in any Hispanic country, along with study abroad plans, motivation to study abroad, and motivation to learn more about each topic (see the Appendix for a complete list of questions). A sample question is: “I have a good idea of what going to college is like in at least one Hispanic country because of the activities I did for this class”. Note that every question on the questionnaire, excluding those about the concrete study-abroad plans, ends with the phrase “because of the activities I did for this class”. For the students in the experimental group, this phrase was a specific reference to the CMC cultural exchanges performed in the classroom.

The experimental and control groups’ self-perception responses were based on a Lickert-scale, ranging from 1 for “strongly agree” to 4 for “strongly disagree” and were reported on a scantron answer sheet. The statements on the questionnaire are stated so that an agree answer would indicate a positive response to having learned more about the culture. A frequency count was carried out on the data for each of the seven topics with the “agree” responses (1 and 2) grouped together separately from the “disagree” responses (3 and 4). The Chi-Square (with Fisher’s exact test) and Phi statistical tests were used determine whether a statistically significant higher percentage of the experimental group than the control group agreed with the questionnaire statements. A p value of 0.05 or less was considered to be statistically significant, 0.05 to 0.10 to be borderline significant, and higher than 0.10 to be insignificant. For example, the responses to Statement 3 on the questionnaire, “I can name at least three stories in the news in at least one Hispanic country” were analysed to find that 28.9% of the control and 52.2% of the experimental group agreed with that one statement, as shown in Table 2. That information was then analysed with the Chi-Square test, which indicated that the result was borderline significant ($p = .070$).

In addition, the group of statements dealing with current events was analysed as a whole, see Table 3. For example, in the control group there were 82 agree answers and 108 disagree
answers to the five statements in the category “Current events”, while in the experimental groups there were 74 agree and 41 disagree answers. As percentages, this breaks down to 43.2% agreeing and 56.8% disagreeing in the control group, and 64.3% agreeing and 35.7% disagreeing in the experimental group.

The Chi-Square test was applied to the cultural events data, confirming the statistical significance (p =.000) of the greater tendency on the part of the

Table 2. Percentage of responses agreeing/disagreeing with Statement 3: “I can name at least three stories in the news in at least one Hispanic country . . .”

<table>
<thead>
<tr>
<th>Participant group</th>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control, n=38</td>
<td>27</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>71.1%</td>
<td>28.9%</td>
</tr>
<tr>
<td>Experimental, n=23</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>47.8%</td>
<td>52.2%</td>
</tr>
</tbody>
</table>

Table 3. Percentage of responses agreeing to “current event” Statements 3, 9, 16, 23, and 30.

<table>
<thead>
<tr>
<th>Participant group</th>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control, n =38</td>
<td>108</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td>56.8%</td>
<td>43.2%</td>
</tr>
<tr>
<td>Experimental, n=23</td>
<td>41</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>35.7%</td>
<td>64.3%</td>
</tr>
</tbody>
</table>

experimental group to agree to the statements asserting their awareness of cultural events. Each individual statement on the questionnaire was analysed in a similar way, as was each set of statements related to each of the topics, with the exception of the group of statements referring to study abroad plans. The authors of this study decided not to analyse that data, given that too many variables unrelated to the CMC cultural exchanges were involved. The study data set was analysed with the use of the statistical program SSPS.

Results and Discussion

This section divides the questionnaire response results into two categories: increased awareness about Hispanic culture and the role of CMC activities in increasing motivation to study abroad. The former includes data from questionnaire topics on the daily life, food, current events, and the educational system in any Hispanic country (see Table 4 for the summary of participant responses in this category). The latter consists of data on motivation to learn more about each topic and motivation to study abroad.
Increased Awareness about Hispanic Culture

Table 4 offers a summary of the results of student agreement with several questionnaire statements taken as a set. The statements in each group or category all make reference to a particular aspect of Hispanic culture. For example, under the heading of Current Events, the “agree” answers from Questionnaire Statements 3, 9, 16, 23, and 30 (see Appendix) were tallied together, with the result that the control group agreed to 43.2% of those five statements, while 64.3% of the experimental group did so, which turns out to be a significant difference (p = .000). Analysing the questions together is useful because one can see at a glance that the number of “agree” answers in the experimental group for Current Events (p = .000), followed by Educational System (p = .001) and then Daily Life (p = .007) are significant. In contrast, various statements, when taken individually, show no significant difference between the control and the experimental groups. The results shown in Table 4 will be discussed in relation to each particular aspect of Hispanic culture.

Table 4. Percentage and significance of students agreeing that classroom activities added to their awareness of a particular aspect of a Hispanic culture

<table>
<thead>
<tr>
<th>Participant group</th>
<th>Daily life</th>
<th>Food</th>
<th>Current events</th>
<th>Educational System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control, n = 38</td>
<td>65.2%</td>
<td>56.4%</td>
<td>43.2%</td>
<td>48.1%</td>
</tr>
<tr>
<td>Experimental, n = 23</td>
<td>80%</td>
<td>63%</td>
<td>64.3%</td>
<td>67%</td>
</tr>
<tr>
<td>Significance</td>
<td>p = .007</td>
<td>p = ns</td>
<td>p = .000</td>
<td>p = .001</td>
</tr>
</tbody>
</table>

Hispanic daily life. On average, 80% of the experimental group agreed with the five statements suggesting that participating in CMC helped the students learn about aspects of the daily life of a person from a Hispanic country versus 65.2% of the control group, as shown in Tables 4 and 5 under the “Total” heading. These results are statistically significant (Phi = .154, p = .007). In addition, two questions taken individually proved to be significant for agreement (see the “Daily Life” section in the Appendix to view the questionnaire statements). The first was Statement 36, which affirmed that the student can name three things that a Hispanic student might do for fun (p = .008), with 91.3% of the experimental group agreeing and 59.5% of the control group agreeing. This result makes sense, as students generally asked each other about this topic in postings for the “getting to know you” assignment. Also, the difference in agreement between the control and experimental groups in reference to Statement 28, which asserted that the student has firsthand information about daily life in any Hispanic country, was significant, with 78.3% of the experimental group agreeing and 44.7% of the control group agreeing (Chi square = 6.58, p = 0.016).

The result for Statement 28 rings true as, in retrospect, the statement could be considered biased toward an agree answer for the experimental group. This is so because one would expect the experimental group to have first hand information, while the control group would not. We assert that the fact that the results for this statement reflect this bias promises the accuracy of the study’s other results. Individually taken, there was not a statistically significant difference between the percentage of agreement by the control and experimental groups regarding
Statements 7, 14, and 21 (knowing some day-to-day concerns of some Hispanic people, describing a typical day of a person from an Hispanic country, and knowing more about how holidays are celebrated in at least one Hispanic country). The lack of a significant difference in agreement for the latter also makes sense, as both the textbook and Destinos teach how holidays are celebrated. Given these results, one may decide to fashion the topics to be used in CMC giving thought not to duplicate information already relayed by more traditional means. One might also consider how the information in the textbook or Destinos could be used as a starting point from which to expand upon the students’ awareness of culture by means of CMC.

In general, the data suggest that assigning CMC cultural exchange topics such as “getting to know you”, “current events and media”, and “Hispanic holidays and food” are worthwhile because students’ awareness about the associated topic of daily life may be conveyed more effectively by CMC than by more traditional classroom activities.

**Hispanic food.** In this category the difference between the experimental and control groups was not significant, with 63% of the experimental group and 56.4% of the control group agreeing with the set of statements that affirmed that the activities in the class helped them learn about food in a Hispanic culture (See the “Food” section in the Appendix for the questionnaire statements). Table 6 summarizes the results for this category, including the significance of the five statements taken as a set, as well as individually.

Interestingly, 57.9% of the experimental group versus 78.3% of the control agreed with Statement 22 that they knew what times people in Hispanic countries typically eat their meals. Notwithstanding this one borderline significant result, the data suggest that the CMC activities did not prove to be a more optimal medium over the textbook and Destinos for teaching about food topics.

**Hispanic current events.** In this category of Hispanic current events, a significant difference between the experimental and control groups was found, particularly when the responses were analysed as a group, as can be seen in the “Total” column of Table 7. Table 7 also summarizes the significance of agreement of the five statements taken individually.
Table 6. Significance of students agreeing that classroom activities added to their awareness of "food" of a Hispanic culture (Statements 22, 8, 2, 15, 29)

<table>
<thead>
<tr>
<th>Participant group</th>
<th>Total</th>
<th>22</th>
<th>8</th>
<th>2</th>
<th>15</th>
<th>29</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control, n =38</td>
<td>106</td>
<td>22</td>
<td>8</td>
<td>2</td>
<td>15</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>55.8%</td>
<td>57.9%</td>
<td>21.1%</td>
<td>50.0%</td>
<td>78.9%</td>
<td>71.7%</td>
</tr>
<tr>
<td>Experimental, n = 23</td>
<td>72</td>
<td>18</td>
<td>7</td>
<td>13</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>62.6%</td>
<td>78.3%</td>
<td>30.4%</td>
<td>56.5%</td>
<td>73.9%</td>
<td>73.9%</td>
</tr>
<tr>
<td>Significance</td>
<td>p= ns</td>
<td>p = .105</td>
<td>p = .41</td>
<td>p =.62</td>
<td>p = .65</td>
<td>p = .81</td>
</tr>
</tbody>
</table>

Table 7. Significance of students agreeing that classroom activities added to their awareness of the 'current events' of a Hispanic culture (Statements 30, 16, 9, 3, 23)

<table>
<thead>
<tr>
<th>Participant group</th>
<th>Total</th>
<th>30</th>
<th>16</th>
<th>9</th>
<th>3</th>
<th>23</th>
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<tbody>
<tr>
<td>Control, n =38</td>
<td>82</td>
<td>13</td>
<td>12</td>
<td>25</td>
<td>11</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>43.2%</td>
<td>34.2%</td>
<td>31.6%</td>
<td>65.8%</td>
<td>28.9%</td>
<td>55.3%</td>
</tr>
<tr>
<td>Experimental, n = 23</td>
<td>74</td>
<td>15</td>
<td>13</td>
<td>20</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>64.3%</td>
<td>65.2%</td>
<td>56.5%</td>
<td>87.0%</td>
<td>52.2%</td>
<td>60.9%</td>
</tr>
<tr>
<td>Significance</td>
<td>p =0.00</td>
<td>p = .019</td>
<td>p =.055</td>
<td>p = .07</td>
<td>p = .07</td>
<td>p = .67</td>
</tr>
</tbody>
</table>

Participating in CMC activities may explain why 64.3% of the students in the experimental group agreed that these activities helped them understand current events in a Hispanic country, in comparison to 43.2% of the control group that agreed that non-CMC activities achieved the same means (Phi =0.205, p = 0.000). This result is consistent with the fact that neither the textbook nor Destinos offers information on current events. The data suggest that participation in CMC is an effective manner of acquiring up-to-date information.

The significant difference between the participant groups was revealed in the results for Statement 30, (see the ‘Current Events’ section of the Appendix for the questionnaire statements) which affirms that the students’ points of view about current events changed, with 65.2% of the experimental group agreeing, and 34.2% of the control group agreeing (Chi-square= 5.57, p =0.033 [Fisher’s exact]). Data for Statements 16, 9, and 3 (students can name three stories in the news, students know what kind of news stories are frequently published in the newspaper, and students know what current events interest people) show borderline significance for experimental group agreement.

The students in this study’s control group did not have the opportunity to exchange their ideas about current events with native-speaker counterparts. Additionally, such mediums such as Destinos and textbooks have no means of offering up-to-the minute information about current events. Therefore, a conclusion could be drawn that the cultural information in the textbook and Destinos did not increase students’ awareness nor influence their opinions about current events as much as the CMC activities did. Hispanic educational system. In this category of Hispanic educational systems, a significant difference was found when the five statements were analysed together, while one statement showed significance when analysed alone, as can be seen in
Table 8. (See the “Educational System” section of the Appendix for the questionnaire statements). On average, 67% of the experimental group agreed with statements affirming awareness of the Hispanic educational system, versus 48.1% of those in the control group (Phi = 0.183, p = 0.001).

The most significant way in which the CMC activities aided students in understanding the educational system was in enlightening them of possible majors a Hispanic student might have, with 73.9% of the experimental and 39.5% of the control agreeing that they could name two majors of a Hispanic student (p = 0.009). While both the textbook and Destinos teach students the names of classes, they do not mention the names of programs of study. In contrast, one of the first questions students asked each other in the CMC exchanges was their area of studies at the university. This result could be explained by the effectiveness of the CMC cultural exchanges in assisting the majority of the experimental group to understand certain aspects of the educational system of at least one Hispanic country.

The role of CMC in Increasing Motivation to Study Abroad Motivation to learn more about each topic. Neither as a group nor individually did the statements concerning motivation to learn more about a Hispanic culture inspire a significant higher rate of agreement with the experimental group than with the control group. Table 9 summarizes the results.

Only one statement indicating interest in trying foods in an Hispanic country was borderline significant (p = .082). The data indicate that, although students may become more aware about the target culture with CMC, it does not necessarily increase their motivation to learn more about Hispanic culture. Motivation to study abroad. As was expected, data showed that a borderline significant percentage of students in the experimental group, 50.3%, versus 41.7% in the control group, agreed to the group of statements stating that CMC activities increased their motivation to study abroad. (Phi = 0.084, p = [0.082]). Table 10 summarizes the results.

While there was no significant difference between the control and experimental groups in regards to the other statements, some of the data is nonetheless relevant to this study. Table 11 summarizes this information. The majority of students in both groups agreed that knowing someone personally in another country would make them more likely to study abroad, with 82.6% in the experimental and 64.9% in the control group agreeing. The data suggest the
importance of creating opportunities for students to have personal contact with target-language students in order to promote study abroad. A conclusion could be drawn that this type of interaction is readily accessible through CMC activities.

Table 9. Significance of students agreeing that classroom activities added to their “motivation to learn more” about a Hispanic culture (Statements 20, 7, 13, 34)

<table>
<thead>
<tr>
<th>Participant group</th>
<th>Total</th>
<th>20</th>
<th>7</th>
<th>13</th>
<th>34</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control, n=38</td>
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<td>25</td>
<td>15</td>
<td>25</td>
<td>19</td>
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<td></td>
<td>55.3%</td>
<td>65.8%</td>
<td>39.5%</td>
<td>65.8%</td>
<td>50%</td>
</tr>
<tr>
<td>Experimental, n=23</td>
<td>58</td>
<td>19</td>
<td>11</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>63.7%</td>
<td>86.4%</td>
<td>47.8%</td>
<td>69.6%</td>
<td>52.2%</td>
</tr>
<tr>
<td>Significance</td>
<td>p=.195</td>
<td>p=.082</td>
<td>p=.52</td>
<td>p=.76</td>
<td>p=.87</td>
</tr>
</tbody>
</table>

Table 10 (see last page).

Table 11. Desire to or likelihood of participating in a study abroad program in a Hispanic country

<table>
<thead>
<tr>
<th>Participant group</th>
<th>Agree that CMC motivated them to study abroad</th>
<th>Agree that knowing someone personally in country makes student inclined to study abroad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control, n=38</td>
<td>41.7%</td>
<td>64.9%</td>
</tr>
<tr>
<td>Experimental, n=23</td>
<td>50.3%</td>
<td>82.6%</td>
</tr>
<tr>
<td>Significance</td>
<td>p=.082</td>
<td>p=.13</td>
</tr>
</tbody>
</table>

Conclusion

How can we teach culture to students who have little or no contact with the culture of the target language? This question, raised by Tavares and Cavalcanti (1996), is common to many foreign language teachers. As an answer, the authors suggest implementing culture-based activities through the convenient medium of the Internet. This suggestion seemed to be effective with the learner population of this study.

The data of this investigation indicate that engagement in CMC activities corresponds to higher awareness of certain aspects of the target culture over students who did not participate in CMC. We may conclude from this study that CMC is likely to be most effective with topics dealing with current events, closely followed by those treating daily life and educational systems. In contrast, CMC appears to be as or less effective than Destinos and the textbook in teaching students about food topics. Individually, the most significant increase in the experimental group’s awareness of culture seemed to be in sparking a change in the students’ point of view about current events, enabling them to name two possible majors of a Hispanic student, furnishing them with first hand information about daily life in a Hispanic country and informing
them about what a Hispanic college student does for fun.

The conclusions coincide with those of Ma (1996), which confirm that the students participating in CMC with target-language counterparts were better informed about the culture, and also with those of Gray and Stockwell (1998), which state that Internet usage enhances intercultural awareness. Moreover, the conclusions of this study support the claims made by Furstenberg et al. (2001) that CMC activities are useful in eliciting opinions and underlying cultural assumptions about the target culture. “The direct contact makes it possible to form opinions for themselves and put an end to stereotypes” (p. 91).

As was expected, the data also showed that a higher percentage of students in the experimental group than in the control group agreed that the CMC activities made them more likely to study abroad than before that semester. Unlike the Mexican highschool participants in Meagher and Castan˜os’ (1996) study, the experimental group of the present study seem to have a positive perception of the target-culture, a conclusion suggested by their increased desire to study abroad. This conclusion corroborates Furstenberg’s (1997) principle that technology in the classroom promotes a more active and enlightened language learner. Direct access to the foreign word empowers the learners to explore that world and create new connections for themselves.

The data show that the majority of students in both groups agreed that knowing someone personally in a particular country would make the students more inclined to study abroad in that country. These responses demonstrate the importance of creating opportunities for students to have personal contact with target-language students in order to promote study abroad. We propose that study abroad is one of the most effective activities for helping students to “cross” the cultural bridge. Therefore, incorporating CMC cultural exchanges in the classroom is very likely a sound way of encouraging study abroad participation. The conclusions of this study are significant in that they show how CMC not only expands cultural awareness of selected topics, but also more importantly, augments student desire to study abroad.

**Directions for Future Research**

The next stage is to provide further evidence of a correlation between CMC cultural exchanges, acquisition of cultural knowledge, the desire to learn more about the target culture, and increased motivation to study abroad. Such an endeavor would imply collecting data from more participants and also minimising the variability in data by having the same instructors teach both the control and experimental groups. In order to achieve higher numbers of participants, the CMC activities will be implemented in four sections of Spanish classes with four different professors, however, the control groups will be formed from students of those same professors’ classes. In addition, Spanish-speaking students in Mexico will also complete the questionnaire, and all groups will take the questionnaire at the beginning and the end of the semester. Moreover, the phrase “because of the activities I did for this class” will be eliminated from the statements, and a new selection of CMC topics will be incorporated paralleling those taught in the control group using Destinos. Also, an issue arises with regards to the success of CMC use among the experimental group because the experimental group received more input about culture than the control group. We cannot be certain that the significance of the higher rate of cultural awareness is due to extra input or if it is actually due to the fact that CMC is effective. A
recommendation for future research is to add a third group of participants who receive a different form of extra cultural input to control for this possibility.

Acknowledgements

The authors would like to thank Dr. Raymond Zeiss for serving as a statistical consultant in this study, as well as the reviewers and editors who provided insightful comments. Any errors are the authors. This work was supported in part by a BellSouth Instructional Innovation Grant.

Notes

1. For a thorough discussion of learner interactions in CALL see Chapelle (1998, 2000), and Hegelheimer and Chapelle (2000).
2. Prior to data collection, approval was obtained from an instructor in Mexico to allow students to participate in this cross-national project.

References


Appendix. Questionnaire statements arranged by topic

**Daily life:** linked to numbers 36, 7, 14, 21, 28 on questionnaire.
36. I can name three things that a Hispanic college student might do for fun.
7. I know what some day-to-day concerns are of some Hispanic people because of what I learned in this class.
14. Because of activities I did for this class, I could describe the typical day of a person in a Hispanic country.
21. I know more about how holidays are celebrated in at least one Hispanic country because of activities I did for this class.
28. I have first hand information about daily life in at least one Hispanic country because of activities I did for this class.

**Food:** linked to numbers 2, 8, 15, 22, 29 on questionnaire.
2. I can name at least three typical dishes that I did not know about before.
8. I have an idea of how to go about preparing a Hispanic dish.
15. I know the names of different foods in Spanish in different Hispanic countries.
22. I know what times people in Hispanic countries typically eat their meal. I would know what to order in a restaurant in a Hispanic country because of activities I participated in for this class.

**Current events:** linked to numbers 3, 9, 16, 23, 30 on questionnaire.
3. I can name at least three stories in the news in at least on Hispanic country.
9. I know what current events interest people in at least one Hispanic country.
16. I know what kind of news stories are frequently published in the newspapers of at least one Hispanic country.
23. I learned one major difference between the political opinions of some people in at least one Hispanic country and my own because of activities I did for this class.
30. My own point of view about current events changed because of activities I did for this class.

**Educational system:** linked to numbers 4, 10, 17, 24, 31 on questionnaire.
4. I understand the educational system better in at least one Hispanic country because of activities I engaged in this class.
10. I have a good idea of what going to college is like in at least one Hispanic country because of activities I did for this class.
17. I can think of one difference between my school experience and that of Hispanic students because of activities I did for this class.
24. I can name two majors that a Hispanic student might typically have because of activities I did for this class.
31. I can name at least two classes that a Hispanic college student might take because of activities I did for this class.

**Study abroad plans:** linked to numbers 5, 11, 18, 25, 32 on questionnaire.
5. I am planning on studying abroad in the next four years.
11. I am planning on studying abroad in the next two years.
18. I am planning on studying abroad with a USCA sponsored trip in the next two years.
25. I am planning on studying abroad with a USCA sponsored trip in the next four years.
32. I do not think I will ever study abroad.

**Study abroad motivation:** linked to numbers 1, 6, 12, 19, 26, 33, 35 on questionnaire.
1. Knowing someone personally in a particular foreign town or city would make no difference in my desire to study in that particular town or city.
6. Due to the activities in this class I am more likely to study abroad than I was before this semester.
12. Because of the activities in this class I have a better idea of where I would like to study abroad.
19. Learning about culture in this class has increased my desire to study abroad.
26. Because of activities I did for this class I have established a friendship that may lead to me visiting a Hispanic country.
33. Knowing someone personally in a particular country would make me more inclined to study abroad in that country.
35. Knowing someone personally in a particular town or city would make me more inclined to study abroad in that town or city.

Motivation to learn more about each topic: linked to numbers 13, 20, 27, 34 on questionnaire.
13. I would like to participate in the festivities for a Hispanic holiday because of activities I did for this class.
20. I am interested in trying foods in a Hispanic country because of activities I did for this class.
27. I am interested in keeping up with current events in a Hispanic country because of activities I did for this class.
34. I would like to know more about the educational systems in a Hispanic country because of activities I did for this class.
Table 10. Significance of students agreeing that classroom activities added to their “motivation to study abroad” (Statements 33, 1, 6, 26, 19, 12, 35).

<table>
<thead>
<tr>
<th>Participant group</th>
<th>Total</th>
<th>#33</th>
<th>#1</th>
<th>#6</th>
<th>#26</th>
<th>#19</th>
<th>#12</th>
<th>#35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>110</td>
<td>24</td>
<td>9</td>
<td>15</td>
<td>8</td>
<td>15</td>
<td>16</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>41.7%</td>
<td>64.9%</td>
<td>23.7%</td>
<td>39.5%</td>
<td>21.1%</td>
<td>39.5%</td>
<td>42.1%</td>
<td>62.2%</td>
</tr>
<tr>
<td>Experimental</td>
<td>81</td>
<td>19</td>
<td>9</td>
<td>12</td>
<td>7</td>
<td>11</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>50.3%</td>
<td>82.6%</td>
<td>39.1%</td>
<td>52.2%</td>
<td>30.4%</td>
<td>47.8%</td>
<td>34.8%</td>
<td>65.2%</td>
</tr>
<tr>
<td>Significance</td>
<td>p = .082</td>
<td>p = .138</td>
<td>p = .20</td>
<td>p = .33</td>
<td>p = .41</td>
<td>p = 1</td>
<td>p = .57</td>
<td>p = .811</td>
</tr>
</tbody>
</table>