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## Exploring attitude in bilingual virtual exchanges: A linguistic perspective

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## 1. Introduction

A plethora of studies over the last thirty years have confirmed that virtual exchange (VE), an innovative activity in which students who are located in different countries collaborate in task and project work, can foster the development of knowledge and competences, especially foreign language (Bueno-Alastuey \& Kleban, 2016) and intercultural skills (Kohn \& Hoffstaedter, 2015; Vinagre, 2016a). Previous research has also indicated that VE can encourage the development of multiliteracies (Hauck, 2010; Guth \& Helm, 2012), pedagogical knowledge (Dooly \& Sadler, 2013), and teachers' telecollaborative skills (O'Dowd, 2015; Vinagre, 2017). Given its great potential, this innovative pedagogy has recently become the objective of the European Commission's Erasmus+ Virtual Exchange project. This initiative aims to engage young students in VE in order to help them develop a better understanding of each other by promoting language learning and intercultural dialogue, whilst increasing awareness of the multilingual and multicultural model of society that we are immersed in. VE also offers educators an opportunity to help students develop key competences which are essential for employability (Vinagre, 2016b), in both formal and non-formal educational settings, by transcending the traditional learning classroom through the integration of technologies. Given its transnational nature, VE can also encourage internationalization on a large scale since it can offer students with economic difficulties or disabilities the possibility of experiencing intercultural exchange from their home institutions.

The principles underlying VE are of a socio-constructivist nature and they emphasize the importance of social interaction for the construction of shared knowledge. This construction process requires active participation, interaction, and reflection. In this context, quality interactions become the basic requirement for collaborative learning (Graham \& Misanchuk, 2004). Lack of successful collaboration can happen for many reasons, including differences in quality and quantity of work, clash of personalities, power struggles, and poor communication (Johnstone, 2002; Vinagre, 2015). Moreover, for collaboration to be successful, interaction between members should be trustworthy and open (Wheelan \& Kesselring, 2005). In this context, the importance of exploring how participants in VE convey personal attitudes in their virtual interaction has been highlighted in recent studies (Oskoz \& Gimeno, forthcoming; RyshinaPankova, 2018; Vinagre \& Corral, 2018; Vinagre \& Corral, forthcoming). These studies have also
approached the analysis of attitudes from a linguistic perspective, thus adding a new perspective to the content-based analysis that has become the norm in VE interaction (Belz, 2003).

## 2. Analyzing attitude in interaction

There have been a wide variety of attempts to analyze the linguistic mechanisms that speakers use to convey their personal attitudes and assessments in social interaction (Cabrejas-Peñuelas \& Díez-Prados, 2014; Hunston \& Thompson 2000; Martin 2003; Martin \& White, 2005; White, 2002). These proposals differ in the methodologies they have used for their analysis, with these varying approaches including consideration of affect (Ochs \& Schieffelin, 1989), evaluation (Thompson \& Hunston, 2000), stance (Biber \& Finegan, 1989), and appraisal (Martin, 2003). Despite these differences, they all focus on the interpretation of the speaker's assessment, the linguistic realizations of stance, and the function of evaluation in building and maintaining relations between speakers and listeners.

The appraisal framework, which examines "the semantic resources (used by interlocutors) to negotiate emotions, judgements, and valuations, alongside resources for amplifying and engaging with these evaluations" (Martin, 2000, p. 144), has increasingly been applied to VE discourse (Belz, 2003; Oskoz, Gimeno, \& Sevilla, 2018; Oskoz \& Gimeno, forthcoming; Ryshina \& Pankova, 2018; Vinagre \& Corral, 2018; Vinagre \& Corral, forthcoming). Based on the theory of systemic-functional linguistics (Eggins \& Slade, 1997), the appraisal framework makes it possible to systematically connect the discourse-semantic aspects of VE interaction with their realizations through particular linguistic resources. In this model, the language of evaluation or appraisal is organized as three interacting components; attitude, engagement, and graduation. The attitude component (see Table 1) is further subdivided into affect (What emotional reaction do participants exhibit?), judgement (How special, capable, or dependable is someone?), and appreciation (How valuable is someone or something?). Affect reflects people's positive or negative emotions or feelings (un/happiness, in/security, dis/satisfaction, dis/inclination). Judgement refers to the linguistic resources employed to assess people's behavior ethically (morally and legally). Appreciation evaluates aesthetically semiotic and natural phenomena and is concerned with impact and quality (reaction), balance and complexity (composition), and valuation (social value). The subcategories of affect, judgement and appreciation can have positive and negative values. The two other components of appraisal, namely engagement and graduation, were not used in this study because the focus was on the extent to which learners attached intersubjective values to participants and processes rather than on the intensity of their statements (graduation) or on the position learners took with regard to particular statements (engagement).

| Appraisal: Attitude |  |  |
| :---: | :---: | :---: |
| Affect <br> - Happiness <br> - cheer <br> - affection <br> - Unhappiness <br> - misery <br> - antipathy <br> - Security <br> - confidence <br> - trust <br> - Insecurity <br> - disquiet <br> - surprise <br> - Satisfaction <br> - interest <br> - pleasure/admiration <br> - Dissatisfaction <br> - ennui <br> - displeasure <br> - Inclination <br> - desire <br> - Disinclination <br> - fear | Judgement <br> - Social esteem <br> - positive normality <br> - negative normality <br> - positive capacity <br> - negative capacity <br> - positive tenacity <br> - negative tenacity <br> - Social sanction <br> - positive veracity <br> - negative veracity <br> - positive propriety <br> - negative propriety | Appreciation <br> - Reaction <br> - positive impact <br> - negative impact <br> - positive quality <br> - negative quality <br> - Composition <br> - positive balance <br> - negative balance <br> - positive complexity <br> - negative complexity <br> - Valuation <br> - positive valuation <br> - negative valuation |

Table 1. Martin and White's (2005) attitudinal component

As regards the use of evaluative language in VEs, several studies have looked into the differences or similarities in terms of attitude between groups (Belz, 2003; Oskoz \& Gimeno, forthcoming; Vinagre \& Corral, 2018; Vinagre \& Corral, forthcoming). Vinagre \& Corral (2018) found that learners, regardless of the country of origin, used more affect markers than judgement and appreciation markers. This is in line with previous research confirming second language learners' tendency to use positive affective language in order to create a close and friendly atmosphere in virtual environments to facilitate effective collaboration and learning (Morand \& Ocker, 2003). Despite these similarities, research has also found culture-specific linguistic patterns that seem
to affect the use of appreciation and judgement markers. For example, Belz (2003) showed that American learners tended to use more positive appreciation markers than their German counterparts. Vinagre \& Corral (2018) and Oskoz \& Gimeno (forthcoming) found that students from Spain tended to use more judgement markers than their American partners. These three studies suggest that there might be cultural differences behind these behaviors. In Spanish culture, being critical (i.e., making value judgements about specific behaviors, ideas, and opinions) is considered a positive trait (Vinagre \& Corral, 2018). German learners are more direct, explicit, and likely to provide ad hoc formulations (Belz, 2003) whereas American learners tend to be more indirect and use linguistic routines to express their ideas whilst avoiding being critical and opinionated (Oskoz \& Gimeno, forthcoming).

Despite potential overarching cultural differences in linguistic behavior, Belz's (2003) analysis of Germans' and Americans' attitudinal tokens in VE revealed that participants did not just exhibit their own culturally-specific linguistic patterns; they also accommodated, to some degree, to the norms of interaction in the foreign language. Belz (2003) suggests that this type of linguapragmatic hybridity is a desired outcome of foreign language learning and suggests that an inadequate knowledge of (or failure to acknowledge) culture-specific patterns of interaction in a partner's language may hinder communication. More recently, studies suggest that in VE, specific patterns emerge regarding the use of appraisal. Participants tend to notice and imitate their partners' use of attitudinal resources, a strategy whose aim is to converge with the other in order to avoid conflict (Vinagre \& Corral, 2018). In their study, these authors found that Spanish and American students used a similar number of affect and appreciation tokens in their interaction. Similarly, these students predominantly used affect tokens and, regardless of category type, the vast majority of tokens had a positive polarity (positive values). This last finding is also corroborated by Vinagre \& Corral (forthcoming) who suggest that the use of more positive markers than negative markers is the result of the students' desire to create a positive atmosphere in telecollaborative environments (Liaw \& English, 2017; Morand \& Ocker, 2003). Belz's and Vinagre \& Corral's studies suggest that in virtual interaction, linguistic hybridity reflects "a natural and emerging state of multicompetence, that is, the state of mind with two (or more) languages, in the learner" (Belz, 2003, p. 92). Moreover, in VE, the fact that the partners have to collaborate through an electronic medium also contributes to the occurrence of acts of hybridity that show that the students acknowledge their peers' culture-specific linguistic patterns and pragmatic discursive strategies, and adapt and integrate them into their own discourse (Vinagre \& Corral, 2018).

Given the current proliferation of studies using the attitudinal component of appraisal for the analysis of virtual interaction, and in order to discover whether the appraisal patterns found in previous studies can be substantiated by further research, the aim of this chapter is to compare the findings from two unrelated bilingual VEs organized between university students in Madrid and New York (Study 1) and university students in Valencia and Maryland (Study 2). The main research questions guiding this study are as follows:

RQ1) What are the similarities or differences in the use of attitude by participants in two unrelated VEs?

RQ2) What are the similarities or differences between the use of attitude by the Spanish participants and American participants in two unrelated VEs?

## 3. Method

a. Participants

In the first study (see Table 2), a group of students from a university in Spain and another from a university in the USA engaged in a telecollaborative exchange for two and a half months. The Spanish students were 49 fourth-year undergraduate students aged between 21 and 22, who were enrolled on a course titled Information and Communication Technologies. As regards gender, ten students were males and thirty-nine were females. Instructors and students met twice a week and tasks were carried out mostly online, working in small groups inside and outside the classroom. The level of experience with the use of the technology was very similar among participants and they had no previous experience of online collaborative learning, although some were familiar with the use of some ICT tools (i.e., blogs, skype) and most of them used social networks (i.e., Facebook, WhatsApp, Twitter). The American students were also undergraduates aged between 21 and 22, from all concentrations, who were taking an Intermediate I or II Spanish course (depending on the semester of implementation). This group was composed of fourteen males and thirty-five females. As regards their competence in the foreign language, the Spanish students' level of English ranged between a B2 and C2 whilst the American students' level was a B2, according to the European Framework of Reference for Languages.

For the second study, two groups of learners, one from a technical university in Spain and the other from a mid-sized Atlantic coast university in the USA, engaged in a telecollaborative encounter over one and a half months. There were twelve Spanish students, all of whom were majoring in aerospace engineering and who were enrolled in an optional 3rd-year 6-credit higher intermediate English-language class, and twelve North American students enrolled in a 3rd-year 3-credit Spanish history and culture class as a requirement for their major or minor in Spanish. Similar to the previous group, the participants did not have previous experience of online collaborative learning, although several of them were familiar with the use of some ICT tools and most of them used social networks. There were 12 female students and 12 male students and they were between 17 and 24 years old. According to the Common European Framework of Reference for Languages, the US-based students' level of Spanish proficiency ranged between B2 and C1, while the Spanish students' level of English ranged between B2 and C2.

|  | Study 1 |  | Study 2 |  |
| :--- | :--- | :---: | :--- | :---: |
|  | Madrid | New York | Valencia | Maryland |
| Student <br> number | 49 students | 49 students | 12 students | 12 students |


| Course | Information and Intermediate <br> Communication <br> Technologies | High-intermediateEspaña y sus <br> English-language <br> culturas <br> Language level <br> B2-C2 (English) B2 (Spanish) B2-C2 (English) B2-C1 (Spanish) |
| :--- | :--- | :--- |
| ICT Tool | Email + Skype | Google + community |
| VE model | E-tandem | E-tandem |
| Process | In pairs students discussed 8 cultural <br> topics ranging from daily life to health <br> systems and political elections | In groups of 4 students discussed 2 <br> cultural topics: immigration and <br> nationalism |

Table 2. Rationale followed in Studies 1 and 2

## b. Tools

In Study 1, following an eTandem approach, the students worked in pairs and used email to discuss a series of topics relating to each other's cultures. Given that there was also a focus on form in the project, the asynchronous nature of email facilitated error correction and provision of feedback. For the final task, the students took some photographs of their respective cities and uploaded them onto Cityscapes, a platform especially designed for this project by Columbia University. Students also used Skype or Zoom for synchronous discussions of the topics and Movie Maker for a final self-reflection video.

Study 2 also followed an eTandem approach. In this case, the instructors/researchers created a private community using Google+ and the students were invited to join. As it was a closed community, this safeguarded the learners' privacy and, in some cases, overcame their unwillingness to share their profile with the outside world. Despite Google products being very popular both in the US and Spain, not all of the participants had Google accounts prior to the project, so those who did not had to register for one. The asynchronous nature of the postings was also a feature sought by the instructors to allow students time to think through and plan their responses (Guth \& Thomas, 2010). For the final task, students completed a podcast based on one of the topics discussed that was uploaded to the Google + platform. Students also used Skype for synchronous discussions of the topics.

## c. Procedure

In Study 1, after sending an introductory message, the students worked in pairs and discussed (in bilingual email messages written half in English and half in Spanish) a series of culture-related topics (stereotypical beliefs, history and politics of their countries, colloquial expressions, literature and music, and other topics of their choice). The cultural discussions were initiated by the teachers in class, since the selected topics for discussion were included in the syllabus of the American students' courses. After the initial in-class conversation, students continued the discussion online with their foreign counterparts. They were required to send a minimum of two emails per week providing information and sharing experiences about their own culture but also showing an interest and requesting information about the foreign culture. Students corrected each other's errors and provided feedback with examples and explanations in order to help their
partners improve their foreign language skills. In order to carry out the final task, an exploration of the linguistic landscape of their respective cities, the dyads met via Skype or Zoom to discuss what they had discovered in the foreign language. Finally, students reflected on what they had learned throughout the entire exchange in a self-reflection video.

In study 2, after preliminary introductions, the students participated in three discussions within the Google+ community, each of which took place over a period of two weeks. The first discussion focused on the YouTube video "The Danger of a Single Story" by Chimamanda Adichie (2009, July). The second and third discussions (analyzed in this study) focused on immigration and nationalism and patriotism. To give all the learners the opportunity to interact in their target language, the discussion on immigration took place entirely in Spanish, whilst the discussion on nationalism took place entirely in English. Students were divided into groups of four, with each group comprising two participants from the US and two participants from Spain.

The cultural discussions were always initiated in class under the guidance of the instructors, who also provided links and articles to boost the conversation. Both groups used the same links and articles as a starting point. After the initial in-class conversation, learners continued the online discussion in their respective groups for two weeks. The two discussions analyzed in this study (immigration and nationalism) addressed topics that were very significant at the time of the study and were having huge repercussions in the news in both countries. Discussions continued throughout the two weeks in student-led teams. All of the group members were required to provide personal opinions and share personal experiences, integrate ideas from their classmates' contributions into their own comments, search for additional information, and ask questions that would help maintain the conversation. All of the learners were required to post a minimum of four comments on each topic.

## d. Data collection and analysis

After the exchange finished, and once consent was given by students to collect and analyze their data for research purposes, a subset of learners' contributions was subjected to quantitative and qualitative analyses. In the first study, the content generated by twenty dyads selected at random, comprised a corpus of 211 messages and 59,908 words. In the second study, the researchers gathered the content from three groups ( 12 students). These groups, which were selected because they had completed all the interactions, comprised a corpus of 85 posts and 23,425 words.

Using the appraisal model (Martin \& White, 2005), the researchers qualitatively analyzed and manually tagged both corpora using the T-unit (that is, a "main clause with all subordinate clauses attached to $\mathrm{it}^{\prime \prime}$ (Hunt, 1965, p. 20) as the element of analysis. The T-unit was selected because "these units are the shortest grammatically allowable sentences into which the theme could be segmented" (Hunt, 1965, p. 21). Within each T-unit, the researchers looked for lexicogrammatical items (adverbs, adjectives, verbs, and nominalizations), that is, a single word, a part of a word, or a chain of words that form the basic elements of a language lexicon. Then, the Tunits were coded as either expressing positive or negative emotions or values. In those cases where there was not an inherently positive or negative polarity, decisions about token type
(affect, judgement, and appreciation) were made based on the context of the conversation. In the next step, the researchers decided whether each T-unit represented affect, judgement, or appreciation, since sometimes the same lexico-grammatical item could represent more than one attitudinal marker depending on the context (e.g., A sad song (appreciation) versus a sad man (affect)).

In order to guarantee the consistency of this analysis, in both studies only one of the two researchers involved analyzed all tokens. However, to ensure internal reliability, the second researchers analyzed $25 \%$ and $20 \%$ of all tokens, respectively. In those cases in which there were discrepancies, the researchers discussed them until consensus was reached. Internal reliability coefficient (Study 1) and Cohen's к (Study 2) were run to determine if there was agreement between the two independent raters regarding segmentation and tagging of the T-units. After discussions to clarify those T-units or tokens that could represent more than one attitudinal marker, strong agreement was achieved between the two raters in each study with an inter-rater reliability coefficient of $83.3 \%$ (Study 1) and $\mathrm{k}=1.000, \mathrm{p}<.0005$ (Study 2).

Quantitative analyses were additionally performed to calculate relative frequencies. Attitude tokens were calculated against non-attitude tokens and then the different subcategories of attitude (affect, judgement and appreciation) were calculated against the totals of appraisal tokens found in the interaction per group. We also calculated the frequencies per 100 words of text to draw comparisons between both groups in both studies. Finally, we used the chi-square test to investigate whether the results of affect, judgement and appreciation tokens used by the participants in each group signaled actual differences between the studies or occurred randomly. Since the chi-square test is extremely sensitive to sample size, after consulting an expert, the total number of tokens was divided by 10 in order to ensure reliability of results.

## 4. Results and Discussion

The purpose of this study is to examine the validity of appraisal as an effective framework to assess learners' attitudinal interactions in virtual exchange (VE). To do so, we present and compare the findings from two bilingual VEs organized between university students in two similar contexts (undergraduate students in Spain and the US) but with differences in the studies (i.e., tasks and topics, number of students, and time on tasks).

The first research question (RQ1) aimed at examining the similarities and differences in the use of attitude by participants in these two unrelated VE interactions. Results from the quantitative analyses can be found in Tables 2 and 3 below:

| ATTITUDE | SPANISH STUDENTS |  |  | AMERICAN STUDENTS |  |
| :---: | :---: | :---: | :--- | :--- | :--- |
|  | Total | Word | Rate per | Total | Word |
|  |  | interval | 100 | Rate per |  |
|  |  |  |  | interval | 100 words |

$\left.\begin{array}{llll|lll}\hline & & \begin{array}{l}\text { between } \\ \text { appraisals } \\ \text { (Total } \\ 32257 \\ \text { words) }\end{array} & \begin{array}{l}\text { words } \\ \text { (Total } \\ 32257 \\ \text { words) }\end{array} & & & \begin{array}{l}\text { between } \\ \text { appraisals } \\ \text { (Total 27651 } \\ \text { words) }\end{array} \\ & & \begin{array}{l}\text { (Total } \\ \text { 27651 }\end{array} \\ \text { words) }\end{array}\right]$

Table 3. Total tokens of attitudinal appraisals by participants in Study 1

| ATTITUDE | SPANISH STUDENTS |  |  | AMERICAN STUDENTS |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Words between appraisal (Total 7580 words) | Rate per 100 words (Total 7580 words) | Total | Words between appraisal (Total 15845 words) | Rate per 100 words (Total 15845 words) |
| Affect | 88 (13.04\%) | 86.14 | 1.16 | 213(16.19\%) | 74.39 | 1.34 |
| - Positive | 47(6.96\%) | 161.28 | 0.62 | 142(10.79\%) | 111.58 | 0.90 |
| - Negative | 41(6.07\%) | 184.88 | 0.54 | 71(5.40\%) | 223.17 | 0.45 |
| Judgment | 343(50.81\%) | 22.10 | 4.53 | 537(40.81\%) | 29.51 | 3.39 |
| - Positive | 219(32.44\% | 34.61 | 2.89 | 398(30.24\%) | 39.81 | 2.51 |
| - Negative | 124(18.37\%) | 61.13 | 1.64 | 139(10.56\%) | 113.99 | 0.88 |
| Appreciation | 244(36.15\%) | 31.07 | 3.22 | 566(43.01\%) | 27.99 | 3.57 |
| - Positive | 110(16.30\%) | 68.91 | 1.45 | 282(21.43\%) | 56.19 | 1.78 |
| - Negative | 134(19.85\%) | 56.57 | 1.77 | 284(21.58\%) | 55.79 | 1.79 |
| Total <br> - Positive | 675 | 139.30 | 8.91 | 1316 | 131.89 | 8.31 |


| - Negative | $376(55.70 \%)$ | 264.80 | 4.96 | $822(62.46 \%)$ | 207.58 | 5.19 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $299(44.30 \%)$ | 302.57 | 3.94 | $494(37.54 \%)$ | 392.95 | 3.12 |

Table 4. Total tokens of attitudinal appraisals by participants in Study 2

As seen in Table 3, participants in the Madrid-New York exchange (Study 1) presented more instances of affect, followed by instances of appreciation and judgement. Participants in the Maryland-Valencia exchange (Study 2), however, presented more instances of judgement, followed by appreciation and affect (see Table 4). Results per subcomponent also show that for affect, percentages and relative frequencies were significantly higher in Study 1 than in Study 2 ( 3.41 and 3.73 versus 1.16 and 1.34). These noticeable differences in the number of affect tokens may be the result of several factors including social presence, time spent on tasks, nature of tasks, and topic of discussion. In this respect, previous studies have illustrated that affective value, or social presence, tends to increase as students engage in discussions during the semester and relationships are formed (Arnold, Ducate, Lomicka, \& Lord, 2005). We believe this to be one of the main contributing factors to the results of our study since, whilst students in Study 1 collaborated for two and a half months (which gave time for students to develop close and friendly relationships), participants in Study 2 only collaborated for one and a half months. Another relevant factor (time spent on tasks) relates to continued collaboration. Thus, while participants in Study 1 took part in eight tasks that involved sending a minimum of two emails per task and a final task that required discussing the linguistic landscapes of their respective cities with the partner via Skype, participants in Study 2 participated in two tasks a minimum of four times each. It seems likely that that the length of the exchange and the amount of time that each pair and group spent on the tasks influenced the presence of affect markers. In addition, learners in Study 2 focused on topics such as immigration and nationalism/patriotism, whereas learners in Study 1, despite discussing the health and political systems of their respective countries, also engaged in topics of a more personal nature, such as getting to know each other, university life, or music preferences. It is possible that these latter topics might have encouraged students in Study 1 to express more emotional states that their counterparts in Study 2. As Arnold et al. (2005) suggest, tasks that require learners to share their personal (and even vulnerable) experiences lead to higher levels of affective indicators than those tasks in which students are required to answer specific questions. Another relevant factor to consider refers to the instructions provided in the tasks, which were very different. While students in Study 1 were required to provide factual information about the different topics together with their personal opinions, in Study 2 emphasis was placed on students looking for additional information and providing evidence to support their opinions as objectively as possible. As Oskoz and Gimeno (forthcoming) pointed out, the perceived formality of the tasks in Study 2 might have also deterred students from exhibiting high numbers of affective markers, favoring judgement and appreciation markers to convey their meanings.

In addition to these differences in the presence of affect markers, there are also differences in how these markers were used in both studies (see Table 5). Within the affect subcomponent, students in Study 1 used mostly tokens of satisfaction-interest (15.94\% for Spanish students and 20.61\% for American students, relative frequencies 1.04 and 1.35 respectively), and happiness-
affection (13.00\% for Spanish students and $13.26 \%$ for American students, relative frequencies 0.84 and 0.88 respectively) in their interaction, with very few instances of negative affect. Students in Study 2 used mostly inclination-desire ( $2.52 \%$ for Spanish students and $3.88 \%$ for American students, relative frequencies 0.32 in both groups) and unhappiness-misery ( $2.37 \%$ for Spanish students and $2.36 \%$ for American students, relative frequencies of 0.21 and 0.21 respectively). These findings reflect the types of emotional reactions that students in both studies used in their interaction to elicit reactions from their partners and they are consistent with the factors previously mentioned (nature of task, time on task and topic). Although all students favored the use of mostly positive appraisals (i.e., satisfaction, happiness, inclination) which supports students' desire to create a positive atmosphere (Liaw \& English, 2017; Morand \& Ocker, 2003), in both studies there is a noticeable presence of unhappiness-misery. The presence of this negative affective marker as the second most frequent appraisal type in Study 2, and with high results in Study 1, was mostly associated to the discussion of the 2016 US presidential elections. This discussion resulted in students reacting with disbelief, sadness, anger, and dismay at the results. Following Vinagre and Corral (2018), it is possible that, by commiserating with each other, students were seeking to build trust and empathy in order to facilitate interaction and encourage collaboration. Results from the chi-square test proved to be statistically significant ( $X^{2}$ $=31.6124, d f=13, \mathrm{p}=.00001, p<.05$ ), which indicates that the patterns exhibited by participants in both studies regarding the use of affect represent a departure from chance.

|  | SPANISH STUDENTS |  | AMERICAN STUDENTS |  |  |  | SPANISH STUDENTS |  | AMERICAN STUDENTS |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | SUDY 1 |  |  |  |  |  | STUD |  |  |  |
|  | Total tokens | Percentage | Rate per 100 words (32257) | Total tokens | Percentage | Rate per <br> 100 <br> words <br> (27651) | Total tokens | Percentage | Rate per <br> 100 <br> words <br> (7580) | Total tokens | Percentage | Rate per <br> 100 <br> words <br> (15845) |
| Affect | 1102 | 52.30\% | 3.41 | 1034 | 56.68\% | 3.73 | 88 | 13.04\% | 1.16 | 213 | 16.19\% | 1.34 |
| Happiness | 361 | 17.13\% | 1.11 | 274 | 15.02\% | 0.99 | 9 | 1.33\% | 0.12 | 29 | 2.20\% | 0.18 |
| cheer | 87 | 4.12\% | 0.26 | 32 | 1.75\% | 0.11 | 1 | 0.15\% | 0.01 | 10 | 0.76\% | 0.06 |
| affection | 274 | 13.00\% | 0.84 | 242 | 13.26\% | 0.88 | 8 | 1.19\% | 1.11 | 19 | 1.44\% | 0.12 |
| Unhappiness | 98 | 4.65\% | 0.30 | 107 | 5.86\% | 0.38 | 17 | 2.52\% | 0.22 | 34 | 2.58\% | 0.21 |
| misery | 85 | 4.03\% | 0.26 | 89 | 4.87\% | 0.32 | 16 | 2.37\% | 0.21 | 31 | 2.36\% | 0.20 |
| antipathy | 13 | 0.61\% | 0.04 | 18 | 0.98\% | 0.06 | 1 | 0.15\% | 0.01 | 3 | 0.23\% | 0.02 |
| Security | 140 | 6.64\% | 0.43 | 112 | 6.14\% | 0.40 | 5 | 0.74\% | 0.07 | 28 | 2.13\% | 0.18 |
| confidence | 88 | 4.17\% | 0.27 | 74 | 4.05\% | 0.26 | 2 | 0.30\% | 0.03 | 13 | 0.99\% | 0.08 |
| trust | $52$ | 2.46\% | 0.16 | 38 | 2.08\% | 0.13 | 3 | 0.44\% | 0.04 | 15 | 1.14\% | 0.09 |
| Insecurity | 74 | 3.51\% | 0.22 | 62 | 3.39\% | 0.22 | 16 | 2.37\% | 0.21 | 21 | 1.60\% | 0.13 |
| disquiet | 71 | 3.36\% | 0.22 | 46 | 2.52\% | 0.16 | 6 | 0.89\% | 0.08 | 6 | 0.46\% | 0.04 |
| surprise | 3 | 0.14\% | 0.00 | 16 | 0.87\% | 0.05 | 10 | 1.48\% | 0.13 | 15 | 1.14\% | 0.09 |
| Satisfaction | 372 | 17.65\% | 1.15 | 430 | 23.57\% | 1.55 | 17 | 2.52\% | 0.22 | 34 | 2.58\% | 0.21 |
| interest | 336 | 15.94\% | 1.04 | 376 | 20.61\% | 1.35 | 7 | 1.04\% | 0.09 | 20 | 1.52\% | 0.13 |
| pleasure/ad | 36 | 1.70\% | 0.11 | 54 | 2.96\% | 0.19 | 10 | 1.48\% | 0.13 | 14 | 1.06\% | 0.09 |
| Dissatisfaction | 20 | 0.94\% | 0.06 | 23 | 1.26\% | 0.08 | 4 | 0.59\% | 0.05 | 8 | 0.61\% | 0.05 |
| ennui | 5 | 0.23\% | 0.01 | 5 | 0.27\% | 0.01 | 0 | 0.00\% | 0.00 | 0 | 0.00\% | 0.00 |
| displeasure | 15 | 0.71\% | 0.04 | 18 | 0.98\% | 0.06 | 4 | 0.59\% | 0.05 | 8 | 0.61\% | 0.05 |
| Inclination | 37 | 1.75\% | 0.11 | 26 | 1.42\% | 0.09 | 16 | 2.37\% | 0.21 | 51 | 3.88\% | 0.32 |
| desire | 37 | 1.75\% | 0.11 | 26 | 1.42\% | 0.09 | 16 | 2.37\% | 0.32 | 51 | 3.88\% | 0.32 |
| Disinclination | 0 | 0.00\% | 0.00 | 0 | 0.00\% | 0.00 | 4 | 0.59\% | 0.05 | 8 | 0.61\% | 0.05 |
| fear | 0 | 0.00\% | 0.00 | 0 | 0.00\% | 0.00 | 4 | 0.59\% | 0.05 | 8 | 0.61\% | 0.05 |

Table 5. Comparison of Affect markers per study

|  | SPANISH STUDENTS |  |  | AMERICAN STUDENTS |  |  | SPANISH STUDENTS |  | AMERICAN STUDENTS |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | STUDY 1 |  |  |  |  |  | STUDY |  |  |  |
|  | Total tokens | Percentage | ```Rate per 100 words (32257)``` | Total tokens | Percentage | Rate per <br> 100 <br> words (27651) | Total tokens | Percentage | Rate per 100 words (7580) | Total tokens | Percentage | Rate per 100 words (15845) |
| Appreciation | 493 | 23.39\% | 1.52 | 426 | 23.35\% | 1.54 | 244 | 36.15\% | 3.22 | 566 | 43.01\% | 3.57 |
| Reaction | 216 | 10.25\% | 0.66 | 169 | 9.26\% | 0.61 | 208 | 30.82\% | 2.75 | 465 | 35.33\% | 2.94 |
| + impact | 69 | 3.27\% | 0.21 | 63 | 3.45\% | 0.22 | 12 | 1.78\% | 0.16 | 56 | 4.26\% | 0.35 |
| - impact | 17 | 0.80\% | 0.05 | 4 | 0.21\% | 0.01 | 34 | 5.04\% | 0.45 | 96 | 7.29\% | 0.61 |
| + quality | 91 | 4.31\% | 0.28 | 71 | 3.89\% | 0.32 | 81 | 12.00\% | 1.07 | 171 | 12.99\% | 1.08 |
| - quality | 39 | 1.85\% | 0.12 | 31 | 1.69\% | 0.11 | 81 | 12.00\% | 1.07 | 142 | 10.79\% | 0.90 |
| Composition | 130 | 6.16\%\% | 0.40 | 109 | 5.97\% | 0.39 | 20 | 2.97\% | 0.69 | 66 | 5.02\% | 0.87 |
| + balance | 46 | 2.18\% | 0.14 | 29 | 1.58\% | 0.10 | 2 | 0.30\% | 0.03 | 1 | 0.08\% | 0.01 |
| - balance | 46 | 2.18\% | 0.14 | 40 | 2.19\% | 0.14 | 1 | 0.15\% | 0.01 | 7 | 0.53\% | 0.04 |
| + complexity | 13 | 0.61\% | 0.04 | 5 | 0.27\% | 0.01 | 11 | 1.63\% | 0.15 | 41 | 3.12\% | 0.26 |
| - complexity | 25 | 1.18\% | 0.07 | 35 | 1.91\% | 0.12 | 6 | 0.89\% | 0.08 | 17 | 1.29\% | 0.11 |
| Valuation | 147 | 6.97\% | 0.45 | 148 | 8.11\% | 0.53 | 16 | 2.37\% | 0.21 | 35 | 2.66\% | 0.22 |
| + valuation | 92 | 4.36\% | 0.28 | 99 | 5.42\% | 0.35 | 2 | 0.30\% | 0.03 | 12 | 0.91\% | 0.08 |
| - valuation | 55 | 2.61\% | 0.17 | 49 | 2.68\% | 0.17 | 14 | 2.07\% | 0.18 | 23 | 1.75\% | 0.15 |

Table 6. Comparison of Appreciation markers per study

|  | SPANISH STUDENTS |  | STUDY 1 AMERICAN STUDENTS |  |  |  | SPANISH STUDENTS |  | AMERICAN STUDENTS |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | STUDY 2 |  |  |
|  | Total tokens | Percentage |  |  |  |  | Rate per <br> 100 <br> words (32257) | Total tokens | Percentage | Rate per <br> 100 <br> words <br> (27651) | Total tokens | Percentage | Rate per <br> 100 <br> words <br> (7580) | Total tokens | Percentage | Rate per <br> 100 <br> words <br> (15845) |
| Judgment | 512 | 24.29\% | 1.58 | 364 | 19.95\% | 1.31 | 343 | 50.81\% | 4.53 | 537 | 40.81\% | 3.39 |
| Social esteem | 298 | 14.14\% | 0.92 | 194 | 10.63\% | 0.70 | 187 | 27.71\% | 2.47 | 265 | 20.14\% | 1.67 |
| + normality | 87 | 4.12\% | 0.26 | 63 | 3.45\% | 0.22 | 104 | 15.41\% | 1.37 | 137 | 10.41\% | 0.86 |
| - normality | 52 | 2.46\% | 0.16 | 38 | 2.08\% | 0.13 | 35 | 5.19\% | 0.46 | 43 | 3.27\% | 0.27 |
| + capacity | 83 | 4.03\% | 0.26 | 41 | 2.24\% | 0.14 | 18 | 2.67\% | 0.24 | 56 | 4.26\% | 0.35 |
| - capacity | 69 | 3.27\% | 0.21 | 44 | 2.41\% | 0.15 | 25 | 3.70\% | 0.33 | 25 | 1.90\% | 0.16 |
| + tenacity | 7 | 0.33\% | 0.02 | 8 | 0.43\% | 0.02 | 3 | 0.44\% | 0.04 | 4 | 0.30\% | 0.03 |
| - tenacity | 0 | 0.00\% | 0.00 | 0 | 0.00\% | 0.00 | 2 | 0.30\% | 0.03 | 0 | 0.00\% | 0.00 |
| Social sanction | 214 | 10.15\% | 0.66 | 170 | 9.32\% | 0.61 | 156 | 23.10\% | 2.06 | 272 | 20.67\% | 1.72 |
| + veracity | 68 | 3.22\% | 0.27 | 67 | 3.67\% | 0.24 | 84 | 12.44\% | 1.11 | 186 | 14.13\% | 1.17 |
| - veracity | 3 | 0.14\% | 0.00 | 1 | 0.05\% | 0.00 | 3 | 0.44\% | 0.04 | 6 | 0.46\% | 0.04 |
| + propriety | 132 | 6.26\% | 0.40 | 95 | 5.20\% | 0.34 | 10 | 1.48\% | 0.13 | 15 | 1.14\% | 0.09 |
| - propriety | 11 | 0.52\% | 0.03 | 7 | 0.38\% | 0.02 | 59 | 8.74\% | 0.78 | 65 | 4.94\% | 0.41 |

Table 7. Comparison of Judgment markers per study

Appreciation, despite being the second most common category in both studies, had a significantly higher presence in Study 2 ( $36.15 \%$ for Spanish students and $43.01 \%$ for American students, with relative frequencies of 3.22 and 3.55 respectively) while in Study 1, despite showing higher numbers of appraisals, percentages and relative values were lower ( $23.41 \%$ for Spanish students and $23.35 \%$ for American students, with relative frequencies of 1.52 and 1.54 respectively). Interestingly though, as seen in Table 6, reaction ('it is exciting') was the subcategory most frequently used in both studies (10.25\% for Spanish students and 9.26\% for American students, with relative frequencies of 0.66 and 0.61 respectively in Study 1;30.82\% for Spanish students and $35.33 \%$ for American students, with relative frequencies of 2.75 and 2.94 respectively in Study 2). This suggests that participants in both studies chose to evaluate the product/process in terms of the impact it made or its quality. As Thompson (2008) suggests, these categories fundamentally reflect the values of a culture, what is 'normal' for members of that culture, and "the parameters within which they 'place' their experiences" (p. 172). Rather than focusing on human behavior, students seem to have been more interested in discovering the practices, policies, and norms of both countries regarding the cultural topics under discussion. As suggested by Belz (2003) and Vinagre and Corral (2018), the use of similar attitudinal tokens by participants in VE, regardless of their culture, seems to be a discursive strategy with the aim of showing solidarity and convergence with the partner in order to facilitate collaboration. Results from the chi-square test also proved highly significant ( $X^{2}=31.3103, d f=9, \mathrm{p}=.00001$ ).

In terms of judgement (see Table 7), participants' discourse patterns were also very similar in both studies. This category was the most common in Study 2 ( $50.81 \%$ for Spanish students and $40.81 \%$ for American students, with relative frequencies of 4.53 and 3.39 respectively) and the least common in Study 1 ( $24.29 \%$ for Spanish students and $19.95 \%$ for American students, with relative frequencies of 1.58 and 1.31 respectively) with chi-square results proving significant ( $X^{2}$ $=30.3586, d f=9, \mathrm{p}=.00001$ ). Most participants showed a preference for social esteem (personal judgements of admiration or criticism) over social sanction (moral judgements of praise and condemnation). Thus, in Study 1, totals for social esteem were $14.14 \%$ for Spanish students and $10.63 \%$ for American students, with relative frequencies of 0.92 and 0.70 , whereas totals for social sanction were $10.15 \%$ for Spanish students and $9.32 \%$ for American students, with relative frequencies of 0.66 and 0.61 . In Study 2, although the Spanish participants also preferred social esteem appraisals ( $27.71 \%$, relative frequency 2.47 ) rather than social sanction ( $23.10 \%$, relative frequency 2.06), the American students favored social sanction slightly more (20.67\%, relative frequency 1.72 ) over social esteem ( $20.14 \%$, relative frequency 1.67). The explanation for this difference is likely to be found in the nature of the topics for discussion (i.e., the 2016 US presidential elections). Students from the United States felt strongly about this topic and they approached the topic from a legal or moral perspective, since judgements of social sanction raise issues about the legality and morality of the person under scrutiny (Martin \& White, 2005).

Within social esteem, the subcategory with the highest number of tokens in both studies was positive normality; 'how unusual someone is' (in Study 1 this was $4.12 \%$ for Spanish students and $3.45 \%$ for American students, with relative frequencies 0.26 and 0.22; in Study 2, 15.41\% for Spanish students and $10.41 \%$ for American students, with relative frequencies 1.37 and 0.86 ). The second highest subcategory in both groups belonged to social sanction, although it was
different in both studies. Thus, while participants in Study 1 preferred positive propriety; 'how ethical someone or something is' ( $6.26 \%$ for Spanish students and $5.20 \%$ for American students, with relative frequencies of 0.40 and 0.34 respectively), participants in Study 2 favored positive veracity; 'how truthful someone or something is' ( $12.44 \%$ for Spanish students and $14.13 \%$ for American students, with relative frequencies of 1.11 and 1.17 respectively). Even though we could consider that these two subcategories are very closely related, the fact that students in each study used the same type of judgement tokens reinforces the idea of the use of similar discursive strategies to create solidarity (Belz, 2003; Vinagre \& Corral, 2018).

With regard to RQ2, which aimed to investigate whether there were any similarities or differences in the way the Spanish students in both studies and the American students in both studies deployed appraisal, results from the chi-square test for affect proved statistically significant despite the differences in totals. Thus, for the use of affect among Spanish students in both studies, results from the chi-square statistic were $X^{2}=11.1674, \mathrm{df}=13, \mathrm{p}=.000832$. Similarly, chi-square test results for the American students in both studies also proved statistically significant ( $X^{2}=19.344, d f=13, p=.000011$ ).

A more detailed look into the subcategories within affect (see Table 8), reveals that similar attitudinal patterns can be observed between the Spanish and American students who participated in the studies. For instance, when looking at the commonalities between the students from Spain, participants in both studies used mostly positive markers, favoring satisfaction appraisals in their interaction ( $17.65 \%$ in Study 1 and $2.52 \%$ in Study 2, relative frequencies of 1.15 and 0.22 ). As regards those subcategories that they used the least, they also coincide in the lack of appraisals of disinclination ( $0 \%$ in Study 1 and $0.59 \%$ in Study 2, relative frequencies of 0 and 0.05) and dissatisfaction ( $0.23 \%$ in Study 1 and $0.59 \%$ in Study 2, relative frequencies of 0.01 and 0.05 ). However, there were also striking differences between the two groups, such as the presence of high totals of happiness (17.13\%, relative frequency of 1.1) and security tokens ( $6.64 \%$, relative frequency of 0.43 ) in Study 1 versus high totals of unhappiness ( $2.52 \%$, relative frequency of 0.22 ) and insecurity tokens ( $2.37 \%$, relative frequency of 0.21 ) in Study 2. As regards the contributions from students in the United States in both groups, the results showed that satisfaction was also the subcategory that participants in both studies shared the most ( $23.57 \%$ in Study 1 and $2.58 \%$ in Study 2, relative frequencies of 1.51 and 0.21 ). Participants in both studies also presented a lack of disinclination ( $0 \%$ in Study 1 and $0.61 \%$ in Study 2, relative frequencies of 0 and 0.05 ) and dissatisfaction appraisals ( $0.27 \%$ in Study 1 and $0.61 \%$ in Study 2, relative frequencies of 0.01 and 0.05 ). When looking at the differences in the use of affect, the most significant is again the presence of high totals of happiness ( $15.02 \%$, relative frequency of 0.99 ) and security tokens ( $6.14 \%$, relative frequency of 0.40 ) in Study 1 , versus high totals of inclination (3.88\%, relative frequency of 0.32 ) and unhappiness ( $2.58 \%$, relative frequency of 0.21) in Study 2.

The clear similarities in the use of affect by the Spanish participants and American participants in each of the studies reinforces the idea that participants from the same culture share common traits in their discourse (Belz, 2003). Yet, it is noteworthy that participants in each of the studies, regardless of their culture, also used the same type of affect tokens, indicating the presence of
lingua-pragmatic hybridity (Belz, 2003; Vinagre \& Corral, 2018), which is considered crucial for successful intercultural interaction in VEs. As suggested by Vinagre and Corral (2018), it is likely that the online environment contributed to the occurrence of acts of hybridity demonstrating that the participants "acknowledged their peers' linguistic patterns and pragmatic discursive strategies and adapt and integrate them into their own discourse" (p.338). The differences in the use of polarity (i.e., the use of positive and negative values) between participants in Study 1 (main affect subcategories were positive) and those in Study 2 (main affect subcategories were negative) may be linked to the different nature of the tasks and topics discussed in each of the studies (as already suggested in RQ1).

Regarding appreciation, results from the chi-square statistic ( $X^{2}=9.2864, \mathrm{df}=9, \mathrm{p}=.0002309$ ) are significant at $p<.05$, indicating a high degree of association between the two Spain-based groups. When examining the discourse patterns of the Spanish students (see Table 9), the most common category was reaction ( $10.25 \%$ in Study 1 and $30.82 \%$ in Study 2, relative frequencies of 0.66 and 2.75 respectively). Within reaction, positive quality ('it is innovative') was also the preferred strategy by Spanish students in both studies (4.31\% in Study 1 and 12.00\% in Study 2, relative frequencies of 0.28 and 1.07 respectively). Other relevant subcategories were positive valuation ( $4.36 \%$, relative frequency of 0.28 ) and positive impact ( $3.27 \%$, relative frequency of 0.21 ) by participants in Study 1, whilst participants in Study 2 favored negative quality ( $12.00 \%$, relative frequency of 1.07 ) and negative impact (5.04\%, relative frequency of 0.45 ). Similar to the affect results above, polarity totals by Spanish students in both studies showed that while in Study 1 the presence of positive appreciation appraisals outnumbered the negative ( $311,63 \%$ positive appreciation tokens versus 182, $37 \%$ negative appreciation tokens), in Study 2 it was the reverse ( $134,55 \%$ negative appreciation tokens versus $110,45 \%$ positive appreciation tokens).

When looking into the presence of appreciation appraisals by the American groups, the chisquare test results also proved statistically significant ( $X^{2}=18.602, d f=9, p=.000016$ ), which indicates a high degree of association between the two groups. Similar to students from Spain, the most common category was reaction ( $9.26 \%$ in Study 1 and $35.33 \%$ in Study 2, relative frequencies of 0.61 and 2.94 respectively). Within reaction, positive quality was also the preferred strategy by American students in both studies ( $3.89 \%$ in Study 1 and 12.99\% in Study 2 , relative frequencies of 0.32 and 1.08 respectively). Similar to their Spanish counterparts, other relevant subcategories were positive valuation (5.42\%, relative frequency of 0.35 ) and positive impact ( $3.45 \%$, relative frequency of 0.22 ) by participants in Study 1, whilst participants in Study 2 favored negative quality ( $10.79 \%$, relative frequency of 0.90 ) and negative impact ( $7.29 \%$, relative frequency of 0.61 ).

|  | SPANISH STUDENTS (Study 1) |  |  |  | SPANISH STUDENTS (Study 2) |  | AMERICAN STUDENTS (Study 1) |  |  | AMERICAN STUDENTS (Study 2) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total tokens | Percentage | Rate per 100 words (32257) | Total tokens | Percentage | Rate per 100 words (7580) | Total tokens | Percentage | Rate per 100 words (27651) | Total tokens | Percentage | Rate per <br> 100 <br> words <br> (15845) |
| Affect | 1102 | 52.30\% | 3.41 | 88 | 13.04\% | 1.16 | 1034 | 56.68\% | 3.73 | 213 | 16.19\% | 1.34 |
| Happiness | 361 | 17.13\% | 1.11 | 9 | 1.33\% | 0.12 | 274 | 15.02\% | 0.99 | 29 | 2.20\% | 0.18 |
| cheer | 87 | 4.12\% | 0.26 | 1 | 0.15\% | 0.01 | 32 | 1.75\% | 0.11 | 10 | 0.76\% | 0.06 |
| affection | 274 | 13.00\% | 0.84 | 8 | 1.19\% | 1.11 | 242 | 13.26\% | 0.88 | 19 | 1.44\% | 0.12 |
| Unhappiness | 98 | 4.65\% | 0.30 | 17 | 2.52\% | 0.22 | 107 | 5.86\% | 0.38 | 34 | 2.58\% | 0.21 |
| misery | 85 | 4.03\% | 0.26 | 16 | 2.37\% | 0.21 | 89 | 4.87\% | 0.32 | 31 | 2.36\% | 0.20 |
| antipathy | 13 | 0.61\% | 0.04 | 1 | 0.15\% | 0.01 | 18 | 0.98\% | 0.06 | 3 | 0.23\% | 0.02 |
| Security | 140 | 6.64\% | 0.43 | 5 | 0.74\% | 0.07 | 112 | 6.14\% | 0.40 | 28 | 2.13\% | 0.18 |
| confidence | 88 | 4.17\% | 0.27 | 2 | 0.30\% | 0.03 | 74 | 4.05\% | 0.26 | 13 | 0.99\% | 0.08 |
| trust | 52 | 2.46\% | 0.16 | 3 | 0.44\% | 0.04 | 38 | 2.08\% | 0.13 | 15 | 1.14\% | 0.09 |
| Insecurity | 74 | 3.51\% | 0.22 | 16 | 2.37\% | 0.21 | 62 | 3.39\% | 0.22 | 21 | 1.60\% | 0.13 |
| disquiet | 71 | 3.36\% | 0.22 | 6 | 0.89\% | 0.08 | 46 | 2.52\% | 0.16 | 6 | 0.46\% | 0.04 |
| surprise | 3 | 0.14\% | 0.00 | 10 | 1.48\% | 0.13 | 16 | 0.87\% | 0.05 | 15 | 1.14\% | 0.09 |
| Satisfaction | 372 | 17.65\% | 1.15 | 17 | 2.52\% | 0.22 | 430 | 23.57\% | 1.55 | 34 | 2.58\% | 0.21 |
| interest | 336 | 15.94\% | 1.04 | 7 | 1.04\% | 0.09 | 376 | 20.61\% | 1.35 | 20 | 1.52\% | 0.13 |
| pleasure/ad | 36 | 1.70\% | 0.11 | 10 | 1.48\% | 0.13 | 54 | 2.96\% | 0.19 | 14 | 1.06\% | 0.09 |
| Dissatisfaction | 20 | 0.94\% | 0.06 | 4 | 0.59\% | 0.05 | 23 | 1.26\% | 0.08 | 8 | 0.61\% | 0.05 |
| ennui | 5 | 0.23\% | 0.01 | 0 | 0.00\% | 0.00 | 5 | 0.27\% | 0.01 | 0 | 0.00\% | 0.00 |
| displeasure | 15 | 0.71\% | 0.04 | 4 | 0.59\% | 0.05 | 18 | 0.98\% | 0.06 | 8 | 0.61\% | 0.05 |
| Inclination | 37 | 1.75\% | 0.11 | 16 | 2.37\% | 0.21 | 26 | 1.42\% | 0.09 | 51 | 3.88\% | 0.32 |
| desire | 37 | 1.75\% | 0.11 | 16 | 2.37\% | 0.32 | 26 | 1.42\% | 0.09 | 51 | 3.88\% | 0.32 |
| Disinclination | 0 | 0.00\% | 0.00 | 4 | 0.59\% | 0.05 | 0 | 0.00\% | 0.00 | 8 | 0.61\% | 0.05 |
| fear | 0 | 0.00\% | 0.00 | 4 | 0.59\% | 0.05 | 0 | 0.00\% | 0.00 | 8 | 0.61\% | 0.05 |

[^0]|  | SPANISH STUDENTS (Study 1) |  |  |  | SPANISH STUDENTS (Study 2) |  | AMERICAN STUDENTS (Study 1) |  |  | AMERICAN STUDENTS (Study 2) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total tokens | Percentage | Rate per 100 words (32257) | Total tokens | Percentage | Rate per 100 words (7580) | Total tokens | Percentage | Rate per 100 words (27651) | Total tokens | Percentage | Rate per <br> 100 <br> words <br> (15845) |
| Appreciation | 493 | 23.39\% | 1.52 | 244 | 36.15\% | 3.22 | 426 | 23.35\% | 1.54 | 566 | 43.01\% | 3.57 |
| Reaction | 216 | 10.25\% | 0.66 | 208 | 30.82\% | 2.75 | 169 | 9.26\% | 0.61 | 465 | 35.33\% | 2.94 |
| + impact | 69 | 3.27\% | 0.21 | 12 | 1.78\% | 0.16 | 63 | 3.45\% | 0.22 | 56 | 4.26\% | 0.35 |
| - impact | 17 | 0.80\% | 0.05 | 34 | 5.04\% | 0.45 | 4 | 0.21\% | 0.01 | 96 | 7.29\% | 0.61 |
| + quality | 91 | 4.31\% | 0.28 | 81 | 12.00\% | 1.07 | 71 | 3.89\% | 0.32 | 171 | 12.99\% | 1.08 |
| - quality | 39 | 1.85\% | 0.12 | 81 | 12.00\% | 1.07 | 31 | 1.69\% | 0.11 | 142 | 10.79\% | 0.90 |
| Composition | 130 | 6.16\%\% | 0.40 | 20 | 2.97\% | 0.69 | 109 | 5.97\% | 0.39 | 66 | 5.02\% | 0.87 |
| + balance | 46 | 2.18\% | 0.14 | 2 | 0.30\% | 0.03 | 29 | 1.58\% | 0.10 | 1 | 0.08\% | 0.01 |
| - balance | 46 | 2.18\% | 0.14 | 1 | 0.15\% | 0.01 | 40 | 2.19\% | 0.14 | 7 | 0.53\% | 0.04 |
| + complexity | 13 | 0.61\% | 0.04 | 11 | 1.63\% | 0.15 | 5 | 0.27\% | 0.01 | 41 | 3.12\% | 0.26 |
| - complexity | 25 | 1.18\% | 0.07 | 6 | 0.89\% | 0.08 | 35 | 1.91\% | 0.12 | 17 | 1.29\% | 0.11 |
| Valuation | 147 | 6.97\% | 0.45 | 16 | 2.37\% | 0.21 | 148 | 8.11\% | 0.53 | 35 | 2.66\% | 0.22 |
| + valuation | 92 | 4.36\% | 0.28 | 2 | 0.30\% | 0.03 | 99 | 5.42\% | 0.35 | 12 | 0.91\% | 0.08 |
| - valuation | 55 | 2.61\% | 0.17 | 14 | 2.07\% | 0.18 | 49 | 2.68\% | 0.17 | 23 | 1.75\% | 0.15 |

Table 9. Comparison of Appreciation markers per group

|  | SPANISH STUDENTS (Study 1) |  |  |  | SPANISH STUDENTS (Study 2) |  | AMERICAN STUDENTS (Study 1) |  |  | AMERICAN STUDENTS (Study 2) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Percentage | Rate per <br> 100 <br> words (32257) | Total tokens | Percentage | Rate per 100 words (7580) | Total tokens | Percentage | Rate per 100 words (27651) | Total tokens | Percentage | Rate per 100 words (15845) |
| Judgment | 512 | 24.29\% | 1.58 | 343 | 50.81\% | 4.53 | 364 | 19.95\% | 1.31 | 537 | 40.81\% | 3.39 |
| Social esteem | 298 | 14.14\% | 0.92 | 187 | 27.71\% | 2.47 | 194 | 10.63\% | 0.70 | 265 | 20.14\% | 1.67 |
| + normality | 87 | 4.12\% | 0.26 | 104 | 15.41\% | 1.37 | 63 | 3.45\% | 0.22 | 137 | 10.41\% | 0.86 |
| - normality | 52 | 2.46\% | 0.16 | 35 | 5.19\% | 0.46 | 38 | 2.08\% | 0.13 | 43 | 3.27\% | 0.27 |
| + capacity | 83 | 4.03\% | 0.26 | 18 | 2.67\% | 0.24 | 41 | 2.24\% | 0.14 | 56 | 4.26\% | 0.35 |
| - capacity | 69 | 3.27\% | 0.21 | 25 | 3.70\% | 0.33 | 44 | 2.41\% | 0.15 | 25 | 1.90\% | 0.16 |
| + tenacity | 7 | 0.33\% | 0.02 | 3 | 0.44\% | 0.04 | 8 | 0.43\% | 0.02 | 4 | 0.30\% | 0.03 |
| - tenacity | 0 | 0.00\% | 0.00 | 2 | 0.30\% | 0.03 | 0 | 0.00\% | 0.00 | 0 | 0.00\% | 0.00 |
| Social sanction | 214 | 10.15\% | 0.66 | 156 | 23.10\% | 2.06 | 170 | 9.32\% | 0.61 | 272 | 20.67\% | 1.72 |
| + veracity | 68 | 3.22\% | 0.27 | 84 | 12.44\% | 1.11 | 67 | 3.67\% | 0.24 | 186 | 14.13\% | 1.17 |
| - veracity | 3 | 0.14\% | 0.00 | 3 | 0.44\% | 0.04 | 1 | 0.05\% | 0.00 | 6 | 0.46\% | 0.04 |
| + propriety | 132 | 6.26\% | 0.40 | 10 | 1.48\% | 0.13 | 95 | 5.20\% | 0.34 | 15 | 1.14\% | 0.09 |
| - propriety | 11 | 0.52\% | 0.03 | 59 | 8.74\% | 0.78 | 7 | 0.38\% | 0.02 | 65 | 4.94\% | 0.41 |

Table 10. Comparison of Judgment markers by group

As regards total results for polarity, similar findings to those from the Spanish group were also found here. In Study 1, the presence of positive appraisals outnumbered the negative (267, 62.6\% positive appreciation tokens versus 159, 37.4\% negative appreciation tokens), whereas in Study 2 negative appreciation was more abundant ( $285,50.4 \%$ negative appreciation tokens versus $281,49.6 \%$ positive appreciation tokens).

These results, similar to those from the affect component, corroborate findings from previous studies that point to the presence of specific patterns and cultural discourse practices among students from the same country (Belz, 2003; Vinagre \& Corral, 2018). The remarkable similarities in the use of subcategory types by participants in each of the studies (quality, valuation, and impact) also suggest a desire to notice and imitate the other in order to adapt and converge in communication. In addition, the consistency in the expression of positive attitudes by participants in Study 1 versus negative attitudes by participants in Study 2 also indicates that, in addition to cultural differences, there is a need to examine the effect that the nature of task and topic for discussion have on virtual interaction. As suggested by Oskoz \& Gimeno (forthcoming), the perceived seriousness of a topic might lead students to focus on different implications of cultural practices and policies. These aspects, no doubt, have a direct effect on the presence of positive and negative markers in participants' discourse.

Results from the judgement component also showed similarities between the Spanish students in the two studies. Results from the chi-square statistic for judgement markers was significant at $<.05\left(X^{2}=24.8524, \mathrm{df}=9, p\right.$-value is $<.00001$ ) which indicates a high degree of association for this variable between these two groups. When looking into the similarities in discourse patterns (see Table 10), Spain-based participants employed more instances of social esteem than social sanction (14.14\%, relative frequency of 0.92 versus $10.15 \%$, relative frequency of 0.66 in Study 1 ; and $27.51 \%$, relative frequency of 1.37 versus $23.10 \%$, relative frequency of 1.37 in Study 2). Within social esteem, students in both studies favored the use of positive normality (4.12\%, relative frequency of 0.26 in Study 1 versus $15.41 \%$, relative frequency of 1.37 in Study 2). As regards the differences, whilst Spain-based students in Study 1 showed more positive propriety appraisals ( $6.26 \%$, relative frequency of 0.40 ), the Spain-based students in Study 2 used positive veracity more often (12.44\%, relative frequency of 1.11).

As regards the American students in both studies, the chi-square test results also proved significant ( $X^{2}=21.002, d f=9, p<.00001$ ). The main observable difference between these two groups is that while US-based students in Study 1 favored social esteem over social sanction, like the Spanish groups ( $10.63 \%$, relative frequency of 0.70 versus $9.32 \%$, relative frequency of 0.61 ), the US-based students in Study 2 preferred social sanction over social esteem (20.67\%, relative frequency of 1.71 versus $20.14 \%$, relative frequency of 1.67 ). As already mentioned, it is likely that the nature of some of the issues discussed (i.e. US elections) may have triggered these students' reaction to judge them according to some set of rules or regulations, more or less explicitly codified by their culture. These rules may be legal or moral and therefore, judgements of social sanction raise questions about the legality and morality of the issues being evaluated.

Finally, the fact that in both studies, Spain-based participants presented higher instances of judgement ( $24.29 \%$, relative frequency of 1.58 in Study 1 and $50.81 \%$, relative frequency of 4.53 in Study 2) versus US-based students (19.95\%, relative frequency of 1.31 in Study 1 and 40.81\%, relative frequency of 3.39 in Study 2) provides further support to the idea that being critical is considered a positive personality trait in Spanish culture, while in American culture being 'critical' and 'opinionated' are considered negative traits and therefore should be avoided (Vinagre \& Corral, 2018).

## 5. Conclusions

The results of this study are threefold. First, the application of the appraisal model (Martin \& White, 2005) to analyze the how participants used attitudinal resources in two unrelated telecollaborative studies confirms that there are observable cultural discourse differences between participants from different countries. Second, when interacting virtually, participants from different countries also adopt and integrate each other's pragma-linguistic discourse patterns. These findings corroborate results from previous studies (Belz, 2003; Vinagre \& Corral, 2018) and suggest that virtual exchanges can provide a fruitful arena where students engage in effective intercultural dialogue. Third, the impact of task type and nature of topic for discussion on learners' discourse patterns cannot be undervalued.

Despite these encouraging results, there are several limitations to this study. First, the different sample size in terms of participants and number of interactions may have affected the results. In the future, it would be of interest to compare the interactions from the same number of participants in separate exchanges but who interact similarly over the same period of time. Second, the differences in the range of tasks to be carried out by participants in the two studies have no doubt influenced the results. The fact that in Study 1 participants talked about a wide range of topics, while in Study 2 the students were limited to two heated topics, has likely resulted in the differences in polarity (positive versus negative) that can be observed in the three attitudinal components (affect, judgement and appreciation). In future studies, providing students from two different exchanges with the same topics would offer us a more accurate depiction of how participants use appraisals in their encounters. Third, neither of these studies collected information on the students' intercultural and linguistic background or on their initial opinions about the topics discussed. This information would provide further insights into how learners approach the different discussions and how their discourse patterns reflect their opinions and reactions.

From a pedagogical perspective, the results of this study illustrate how online interactions in VEs are ideal venues for participants to learn from each other's pragma-linguistic practices. When designing a task, the instructor needs to be aware that task design and topic selection are not neutral and therefore may have implications on learners' discourse patterns. Overall, by engaging in meaningful discussions in which they share their emotional responses to the evaluation of behaviors, objects, and products, learners are a step closer to becoming effective intercultural communicators.

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[^0]:    Table 8. Comparison of Affect markers per group

