Lingue e Linguaggi
Lingue Linguaggi 33 (2019), 211-225
ISSN 2239-0367, e-ISSN 2239-0359
DOI 10.1285/i22390359v33p211
http://siba-ese.unisalento.it, © 2019 Università del Salento

ASSESSING INTERCULTURAL AWARENESS: Reflection vs. Interaction in Telecollaboration

ANNE MULLEN[1], MARIA BORTOLUZZI[2]
[1]UNIVERSITÉ LAVAL, [2]UDINE UNIVERSITY[1]

Abstract – This small case study investigates the usefulness of two complementary assessment models to find evidence of the cognitive thinking processes associated with behaviours of increased intercultural awareness. Two intercultural telecollaboration exchanges (Autumn 2017 and Winter 2018) involved participants from a Canadian (Québec) and an Italian university who were all studying English as foreign/second language. Participants' written answers to questionnaires and discussion questions were quantitatively and qualitatively analysed to find evidence of increased intercultural awareness. Two models were employed: the Interacting Processes of Intercultural Learning by Liddicoat and Scarino (IPIL; Liddicoat and Scarino 2013, Scarino and Liddicoat 2009) and the model of Practical Inquiry (PI) within the Community of Inquiry (CoI) framework by Garrison *et al.* (2001). The IPIL model describes intercultural learning as a progression of behaviours, whereas the PI model emphasizes the cognitive phases involved in online, interactive learning. IPIL provided evidence of participants' increased intercultural awareness in the analysis of questionnaire data; however, the higher cognitive interactive behaviours were elusive. The PI model, conceived for assessing online interactive learning, not only provided evidence of the participants' higher cognitive processes in discussion questions, but also afforded a rich and deep description of the learners' progress toward greater intercultural awareness.

Keywords: Interacting Process of Intercultural Learning; Community of Inquiry (CoI); Practical Inquiry; telecollaboration; intercultural awareness and assessment.

1. Introduction

Byram (2012), who originally defined Intercultural Competence Communication (ICC), in 1997, wrote that interculturally-competent speakers are able to engage in dialogues between cultures. Telecollaborative exchanges have become a popular way of experiencing a culture other than one's own and have been greatly facilitated by technology and social media allowing learners to interact fairly easily and inexpensively (O'Dowd 2016). Orsini-Jones and Lee (2018 p. 23) wrote that using telecollaboration to enhance ICC, "brings benefits that outweigh the challenge it poses. Through telecollaboration the learner's identity is negotiated and reconfigured." The challenge is to use an effective tool which can assess this change in students' intercultural competence.

It has been shown time and time again that intercultural online exchanges are beneficial for the language learner (Dooly and O'Dowd 2018, Helm 2018, O'Dowd and Lewis 2016), but the evidence to support claims of increased intercultural awareness following telecollaborative exchanges remains elusive (Helm 2016). One model conceived for classroom evaluation is the Interacting Processes of Intercultural Learning (IPIL) (Liddicoat and Scarino 2013) which describes the process learners may follow when

[1] All sections of this article were co-authored apart from Sections 4.1. and 4.2. that were written by Anne Mullen, and Section 4.3. written by Maria Bortoluzzi.

meeting languages and cultures different from their own in the aim of increasing their intercultural awareness. Another well-accepted theoretical framework the Community of Inquiry has been developed by Garrison *et al.* (2001) to examine the critical-thinking processes within telecollaborative interactions for pre-service teachers. One of the three aspects of the framework is Cognitive Presence which is investigated through a series of questions called Practical Inquiry (PI). This model assesses learning in collaborative, online contexts.

The purpose of this study is to determine the usefulness of IPIL and PI to assess learners' intercultural awareness following a telecollaborative exchange. First, the paper presents the theoretical framework of the study (Section 2), then the methodology and the data (Section 3). Section 4 discusses the results of the quantitative and qualitative analysis, and Section 5 summarises the conclusions.

2. Theoretical framework

This study is grounded in the sociocultural theory of second language acquisition which describes a competent speaker as one who has linguistic and cultural awareness and can communicate appropriately and effectively (Byram 1997, Kramsch 1993). The language classroom has traditionally provided opportunities for developing some degree of intercultural awareness. Another possibility is a telecollaborative exchange which offers opportunity for social interaction and language learning. Telecollaboration between learners from diverse backgrounds has been associated with increased linguistic and intercultural awareness and competence (Dooly and O'Dowd 2018, Helm 2018, O'Dowd and Lewis 2016, Orsini-Jones and Lee 2018).

Numerous research studies involving intercultural telecollaborative exchanges have investigated different forms of communication combined with the variables of target language, proficiency level, age and task (Belz 2002, Furstenberg *et al*. 2001, Hanna and de Nooy 2009, O'Dowd 2005). Results show that collaboration can benefit learners by increasing their cultural and linguistic awareness. However, little attention has been paid to the assessment of increased intercultural awareness (see Sinicrope, Norris and Watanabe 2007). Therefore, there is a paucity of assessment models which evaluate increased intercultural awareness of learners following telecollaboration (Helm 2016).

One model which could be employed for assessment practices is the Interacting Processes of Intercultural Learning (Liddicoat and Scarino 2013, Scarino and Liddicoat 2009). It draws from sociocultural theories in which speaking, listening, reading and writing activities mediate and help to develop cognitive and affective processes. Following collaborative activities focused on intercultural awareness, teachers could observe increased intercultural awareness in the learners' behaviours. These behaviours could be classified as Noticing, Comparing, Reflecting and Interacting which represent a progression from simpler observations to more cognitively complex thinking and lead to learning (see Fig. 1). This model, to the best of our knowledge, has never been used for the analysis of telecollaborative exchanges (Liddicoat, personal communication).

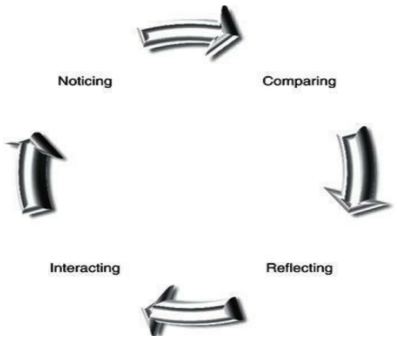

Fig. 1
Interacting Processes of Intercultural Learning (Liddicoat and Scarino 2013, p.60).

Another evaluation tool for collaborative group interaction in online contexts is the Community of Inquiry framework by Garrison *et al.* (2001). Cognitive presence is one aspect of CoI which describes the reflexive phase of information integration that a learner can experience during online group interaction.

Within the cognitive section of the framework, there is the model of Practical Inquiry used for assessing learning. Following collaborative activities, a learner's progression towards increased awareness and knowledge could be assessed. Practical Inquiry (PI) has proven beneficial in assessing group interaction, teaching and learning (Buraphadeja and Dawson 2008, Schire 2006) especially for pre-service teachers.

The model identifies four phases of inquiry: Triggering the inquiry of a problem; Exploring information and ideas which may solve the problem; Integrating new information or ideas and constructing meaning gathered from collaboration; and Resolving the problem with the new information (Akyol and Garrison 2011 p.240). From the first to the fourth phase, there is a progression from simpler to more cognitively complex thinking.

Both the IPIL and the PI model were designed to evaluate learning following collaborative tasks and both models separate learning into a range of four behaviours which reflect increases in cognitive difficulty. However, IPIL was specifically designed to evaluate increased intercultural awareness and PI was conceived to be employed in online, interactive contexts. As this study involves both intercultural awareness and telecollaboration, it will investigate the usefulness of the two models to evaluate increased intercultural awareness through an intercultural, telecollaborative exchange.

3. Methodology and data

3.1. Organization of the telecollaborative exchange and participants

The telecollaborative exchange was carried out six times from 2015 to 2018 between a Canadian and an Italian university. In Autumn 2017, on the basis of the experience of the four previous times the exchanges had taken place, tasks and questionnaires were re-structured. The exchange was then repeated twice: once in Autumn 2017 and once in Winter 2018. This study is based on the data gathered during these two exchanges in the academic year 2017/2018. Each exchange was designed to have three informal synchronous meetings over a six-week period. However, due to institutional differences in the organisation of academic terms, the second exchange consisted of only two meetings over a four-week period. The date and time of the three (or two) online meetings were arranged by the participants. Skype was suggested as the medium for the face-to-face

exchange due to its popularity, low cost, ease of use and possibility of using the video function as well as voice. No meetings took place during classroom time; none were recorded or timed. This kept the exchange informal and as 'authentic' as possible in terms of interaction among peers in a lingua franca (English). After each of the three meetings, there was a corresponding questionnaire which was sent to the participants. All participants answered the questionnaires independently and submitted their answers electronically. The three questionnaires are found in Annex A.

There were a total of 94 participants in the two exchanges (Autumn 2017 and Winter 2018). Of them, 79 submitted all of the required work: three completed questionnaires (21 questions in total) and answers to discussion questions (7 questions) (see Annex A and B). Fifteen participants submitted some, but not all of the required work.

All learners were enrolled in an English language class (ESL, EFL or ELF) at either the Canadian university in Quebec, Canada (Université Laval) or the Italian university (Udine University). Participation was mandatory for some learners and voluntary for others due to varying numbers of students per class. Participants were randomly assigned one or two partners to form groups of 2 or 3 students. In each group, there was at least one student who belonged to the other university. All participants were awarded points toward their final grades for participating and completing the tasks.

Participants had very different academic contexts, study programs and a range of ages (the youngest were 19, the majority were in their 20s, and there were also several mature students). Their native languages were mainly French (for the Canadian students) and Italian (for the Italian students), but some had other L1s (Spanish, Russian, Chinese Mandarin, etc.) either because of their family background or the fact that they were International students. None had English as L1, which means that English was the common lingua franca for all. The English proficiency of the participants had been formally assessed by the respective university teachers for the purposes of enrolment in classes prior to the exchange. As a result, all participants had been identified as having a competence in English well beyond the B1 level of the Common European Framework of Reference, while most students had a competence level beyond the B2 level. This was identified as having sufficient linguistic competence to take part in this exchange programme.

3.2. Objectives and tasks

The exchange had one objective: to offer students the opportunity to develop their intercultural awareness in an informal, relaxed atmosphere outside of class while in collaboration and communication with peers belonging to an unfamiliar culture. This objective was instantiated in the carefully designed Questionnaires and Discussion Questions (see Annex A and B) which focused on perceived communication strategies and culturally-related observations and reflections.

Using the two models of this study (IPIL and PI described in Section 2), we investigated their usefulness in assessing intercultural learning following the informal, telecollaborative exchanges.

Each exchange was composed of three meetings. The aim of the first meeting was for the partners to introduce themselves. Although the classroom teachers made some suggestions of topics (field of study, sport, interests, work and jobs), partners were free to discuss any topic, for any length of time. After the meeting, each partner completed and submitted an online questionnaire which required them to notice, compare and reflect on one another's behaviour on the basis of their spoken interaction (questionnaires in Annex

A). The second meeting required both learners to read a text which had been selected due to its potentially controversial topic of gender prejudice in education (Coates 2007). The article and the topic were not discussed in class to avoid influencing the online interaction. The text was accompanied by a series of guided-reading questions. Although not required, participants were allowed to carry out independent research on the topic before or after their meeting. During the online meeting and with their partners collaboratively, they answered and discussed a series of questions related to the text. They focused on noticing, comparing, and reflecting on educational opportunities for men and women in their countries and the social contexts with which they were familiar. The partners took notes during the online discussion because they needed to submit their answers in addition to completing the second questionnaire. The third and last meeting had the aim of ending the exchange. Partners could do this in any way they wished. Classroom teachers suggested discussing their future plans, or their likes and dislikes regarding the exchange. After the meeting, they answered and then submitted the third questionnaire. This questionnaire required the partners to reflect on the exchange in order to compare the three (or two) meetings.

3.3. Data and data analysis

All written answers to the three Questionnaires and the Discussion Questions (after the second meeting) were analysed for evidence of the four behaviours of the IPIL (Liddicoat and Scarino 2013; Scarino and Liddicoat 2009). Liddicoat and Scarino (2013). As seen in Section 2 above, they identify four main behaviours: a Noticing behaviour which describes a learner who is aware of cultural similarities and differences as they are made evident through language. A Comparing behaviour which refers to the learner who perceives similarities and differences between languages and cultures. A Reflecting behaviour which describes a learner who has reflected on salient similarities or contrasts and has created meaning from this personal experience of linguistic and cultural diversity. The last behaviour is Interacting which entails the learner transferring his/her experience and knowledge of intercultural learning into action. It is important to note that, "These processes do not have a necessary beginning point as each is interrelated with other processes. One possible entry point is through noticing aspects of language and culture as they are presented through the activities in which the learner is engaged." (Liddicoat and Scarino 2013, p.60).

In order to accurately identify the four categories in the written data (Questionnaires and Discussion Questions), the descriptors listed below with sub-sets were adopted. These descriptors were piloted with the help of inter-raters before carrying out the analysis; there was no disagreement. The four categories, the descriptors and some examples, which are verbatim extracts from the data, are found below.

Noticing: during or after communication with the partner, the learner reported or showed evidence of:

1. being challenged by a comment,
2. having interest piqued by a comment,
3. questioning a partner's comments,
4. linking comments to other related issues.

This behaviour also included instances in which students would notice the aspects listed above without adding any further reflection or consideration. This category can be linguistically instantiated in context in a variety of ways: noticing, reporting, expressing interest, questioning, establishing a cultural relation:

> Ex. 1 I was pleasantly surprised finding myself at ease just after a few minutes, the meeting was very spontaneous and time flew by.
>
> Ex. 2 We didn't find many difficulties in communicating. If the proper word didn't come to our minds, we explained the concept using alternative terminology. I didn't find any difficulty with their pronunciation.

Comparing: during or after communication with the partner, the learner reported or showed evidence of:
1. similarities and/or differences between the partners' comments/opinions.

This behaviour included explicit or implicit expressions of comparison (Ex. 3 and 4 respectively):

> Ex. 3 I found that my pronunciation and my mate's is very similar.
>
> Ex. 4 I was surprised to hear how fluent my partners are. They learnt English as a second language, but they speak very well! I sometimes had to think of precise terms, and this made my conversation not that fluent. They have a great vocabulary!

Reflecting: during or after communication with the partner, the learner reported or showed evidence of:
1. reflecting on the significance of what was observed,
2. reflecting on personal reactions to what was observed,
3. reflecting on what brought about this observation,
4. generalising or extrapolating from the event,
5. wishing to explore further,
6. questioning meaning and reflecting on meaning,
7. questioning future experience and reflecting on it.

This behaviour included verb processes which indicated explicit or metaphoric reflection or cognitive discovery about the culture or habits of the partner or their own:

> Ex. 5 I find this common decision an important 'meeting point': it gives the idea of serious people that are trying to face the difficulties of the real life!
>
> Ex. 6 I found fundamental our way of collaborating, helping each other completing the sentences if some terms did not come to mind.

The last of the four behaviours, Interacting, is the most cognitively complex to achieve for it requires an opportunity for learners to demonstrate learned intercultural knowledge by transposing it to a new context which the online exchange did not offer. Therefore, the participants could not easily exhibit their newly acquired learning. Consequently, the Interacting behaviour appeared too narrow to capture displays of intercultural learning.
In order to deal with this fact, the model of Practical Inquiry by Garrison *et al.* (2001) was nested inside the Interacting behaviour, for it affords in-depth investigation into learner interaction as they acquire and display their knowledge. As PI was not conceived to assess intercultural learning, its four phases were further elaborated to fit the online collaborative context. Inter-raters were employed to verify the new wording; there was no disagreement.

Interacting: during or after communication with the partner, the learner reported or showed evidence of interacting with others on the basis of personal learning and experience:
1. questioning previously held beliefs and attitudes about language and culture,

2. re-positioning self towards one's own and partner's culture and language (see Ex. 8),
3. creating new personal meaning in relation to others and the exchange (see Ex. 7),
4. imagining new situations where they would use the new information.

> Ex. 7 At the end of the discussion we agreed on a middle point of view: we took into consideration how 'personality' does not always go along with gender; but we can say that statistically this odd situation is practically true.

> Ex. 8 These Contacts did not only allow me to improve my English, but made me meet a smart, kind and interesting person who is always ready to answer my questions. Therefore, the aspect that I found the most enjoyable concerns the discovery of my partner's 'world'. Through his stories, his memories and his points of view, I had the chance to know more about a Country I have never been to.

The data analysis was cross-checked by two inter-raters with 93% agreement. The frequency of all behaviours as reported by the participants for each meeting was quantitatively analysed. In the case of having multiple behaviours identified in an answer, only the highest cognitive behaviour was included in the statistical analysis.

In addition to the quantitative data analysis, the qualitative focused on only the participants' Interacting behaviours as they are evidence of increased intercultural awareness. Each Interacting instance was classified as belonging to one or more of the four phases and then the combinations of discourse features that were used was examined.

The different instances in the data are described and exemplified in Section 4.3. and can be summarised as containing three main discourse features: 1) verb processes (Halliday and Matthiessen 2004, pp. 170 *et passim*) which are verbal (*e.g.* saying, telling, discussing) and mental (e.g. reflecting, imagining); 2) epistemic or deontic modality as verbs or lexical expressions to convey possibility, strong wish or obligation (Biber *et al.* 1999, p. 483 *et passim;* Perkins 1983); and 3) conditional clauses used to create imagined scenarios (Biber *et al.* 1999, pp. 819 *et passim).* These linguistic features show how some students expressed their ability to co-construct new scenarios together with their partner and use the knowledge which was negotiated together to create new meaning for different contexts (however hypothetical).

4. Results and discussion

4.1. Questionnaire data

The 21 answers from the three questionnaires were read, analysed and coded for instances of the four behaviours of Noticing, Comparing, Reflecting and Interacting, according to the criteria of theoretical framework. In Table 1 below, each group of participants are identified by the Group (A= Canadian and B = Italian); year of the exchange (2017 or 2018) and Meeting (1, 2 or 3 for 2017 and 1 and 2 for 2018).

Questionnaire & Meeting	Noticing	Comparing	Reflecting	Interacting	Total
Group A- 2018					
Meeting 1 (n=13)	54	23	3	0	80
Meeting 2 (n=10)	53	16	4	3	76

Group B - 2018					
Meeting 1 (n=11)	35	28	0	4	67
Meeting 2 (n=11)	52	29	4	3	88
Group A - 2017					
Meeting 1 (n=25)	137	63	2	0	202
Meeting 2 (n=24)	134	39	16	0	189
Meeting 3 (n=30)	133	67	8	1	209
Group B - 2017					
Meeting 1 (n=29)	92	74	4	1	171
Meeting 2 (n=29)	101	115	13	2	231
Meeting 3 (n=29)	120	67	14	2	203
Total	911 60.1%	521 34.3%	68 4.4%	16 1.0%	1516

Table 1
Number of Behaviours by Group, per Meeting (IPIL model).

Table 1 shows that the behaviours of Noticing and Comparing are the most frequently identified in participants' answers in questionnaires following all three meetings. These two behaviours account for 60% and 34% respectively for all reported behaviours regardless of group, exchange or meeting. A very low frequency of occurrence for the behaviours of Reflecting or Interacting was reported (5.4%).

Using *StatPlus* version 5, a one-way ANOVA with a $p<.05$ level was conducted to verify if behaviours differed between groups of participants *i.e.* Canadian versus Italian; however, none of the behaviours was significantly different. Results show that the average number of reported behaviours for each meeting did not differ significantly. The four behaviours were then compared by aggregating both groups. There was a significant difference between the four behaviours [($F(3, 35) = 25.86$, $p=1.89E-8$)]. Post hoc comparisons using the Scheffé test indicated that there was significant difference between Interacting to Comparing, $p=0.002$; Reflecting to Noticing, $p=5.03E-7$; Reflecting to Comparing, $p=0.004$ and Reflecting to Noticing, $p=9.83E-7$. Lastly, each meeting was compared for each of the behaviours. For both exchanges, behaviours for Meeting 1 were significantly different [($F(3,7)=4.63$ $p=0.04$] and post hoc analysis (Scheffé) revealed significant difference between the behaviours of Noticing and Reflecting ($p=0.05$); significant difference was found for Meeting 2 [($F(3,7)=5.40$ $p=0.03$)] with conservative Scheffé indicating near significance between Noticing and Interacting at $p=0.09$.

These findings support the fact that Noticing and Comparing behaviours are most prevalent; they are cognitively easier for the learner to identify and report. The behaviours that are more cognitively challenging (Reflecting and Interacting) were the least reported in the questionnaire answers. For both exchanges, all three meetings and both groups (Italian and Canadian students), Interacting was the behaviour the least often identified in the data. This may be due to this behaviour being more cognitively challenging, for Interaction demands that the transfer of knowledge gathered in the meeting be employed in a real scenario at a later time. Due to the context, there was no real-time opportunity for

any of the participants to interact beyond the time-span of the telecollaboration exchange. Therefore, the few participants who exhibited this transfer of knowledge were able to spontaneously imagine scenarios in which they would hypothetically adopt the behaviour without having been prompted.

The data collected from the questionnaires contained few instances of the Reflecting and Interacting behaviours associated with greater intercultural awareness. These findings may be linked to question wording and formulation. For example, questions which specifically asked participants to compare and contrast resulted in many instances of Noticing or Comparing, whereas instances of Interacting with others was not easily elicited through questionnaires. For this reason, answers to discussion questions were analysed.

4.2. Discussion Questions

Of the 94 learners who participated in one of the two exchanges (2017 or 2018), 74 submitted a discussion report and 20 failed to do so. Those who did not submit the report, cited having forgotten, considered it unimportant, or lacked time. The seven written answers from the discussion were analysed for evidence of Interacting in its four phases (Questioning, Re-positioning, Creating new meaning and Imagining new situations) for each group and year, as shown in Table 2.

	Questioning	Re-positioning	Creating new meaning	Imagining new situations	Total
Group A 2018 (n=13)	1	39	9	0	49
Group B 2018 (n=11)	1	35	7	6	49
Group A 2017 (n=21)	0	66	17	7	90
Group B 2017 (n=29)	1	99	41	9	150
Total	3 0.8%	239 70.7%	74 21.8%	22 6.5%	338

Table 2
Number of Instances of Phases from Discussion Questions (PI model).

The seven discussion questions from the telecollaborative group discussion resulted in a total of 338 instances which were classified as Questioning (0.8%), Repositioning (70.7%), Creating (21.8%) and Imagining (6.5%).

A one-way ANOVA with the $p<.05$ level was conducted to compare the effect of group on the reporting of phases, but none of the phases was significantly different. There was, however, a significant difference between the four phases irrespective of group or session [$(F(3, 8) =7.95, p=0.0087)$]. Post hoc comparisons using the Scheffé test indicated that there was significant difference between the phases of Questioning compared to

Repositioning, p=0.015; Repositioning to Imagining, p=0.026 and near significance between Repositioning to Creating, p=0.031. An ANOVA to compare responses to individual discussion questions for the phases indicated that no individual question showed significance difference. Individual questions were also compared, but no question produced a significantly different number of instances.

An expected finding was that the most frequently reported phase was Re-positioning (exchange and assimilation of information) which supports the findings of the study conducted by Garrison *et al.* (2001). As expected, Imagining new situations and scenarios has the lowest number of instances in the data, for it is the most cognitively-complex phase to achieve. However, there were 22 Imagining instances gathered from answers to discussion questions. In addition, 21 out of 22 instances of Imagining came from Question 6 of the discussion reporting. Therefore, the discourse features of these written reflections were further investigated given their relevance as evidence of participants' development towards more complex levels of intercultural awareness. Section 4.3. reports the discussion of results.

4.3. Qualitative analysis of Discussion Questions

Table 2 shows that there are very few instances (0.8%) of Questioning previously held beliefs and attitudes about language and culture. This is most likely due to the fact that the students had already gone through this phase prior to or during the meeting and did not report it. On the other hand, Re-positioning is shown as the most frequent category with 70.7% of the instances expressed in several ways. Re-positioning shows evidence of a more cognitively advanced phase of intercultural awareness because it entails a change of perspective. All students reported at least some instances of this behaviour. The category 'Creating new meaning in relation to others and the exchange' adds a further layer of complexity to intercultural awareness because it suggests the capacity to express independent group meaning (co-constructed during the discussion). Creating new meaning occurs in 21.8% of instances and provides evidence that many students were able to reach a fairly complex cognitive level of intercultural awareness and were also able to report it in writing. The last and most complex stage of representation of intercultural awareness is the category Imagining new situations. As shown from the results of the discussion questions (see Section 4.2.), there are only 22 instances of this behaviour (6.5%) and 21 of them are elicited by Question 6:

> What do you and your partner think? How can both males and females be encouraged in their academic success without limiting the other gender?

While the question potentially triggers the behaviour of imagining scenarios, not all participants were actually able to imagine or apply their intercultural knowledge in a new situation.

Further in-depth analysis was conducted into the types of scenarios that the participants described. Question 6 tended to elicit answers which pertained to education due to the use of the adjective 'academic' which was the topic of the text and featured in the question (12 instances). Some participants were also able to imagine wider social scenarios (4 instances) and others a combination of educational and social scenarios (6 instances). The fact of having already had direct experience with various educational levels, types of instructors and diverse teaching methods most likely meant that the participants were able to describe their own educational experiences and offer a range of opinions and suggestions.

Responses to Question 6 often contained an exclusive first person plural deixis which overtly refers in context to the group or to the partners in the group (*e.g. our* beliefs; *both of us* think, etc). Participants also employed verbs referring to mental processes which show that conclusions and solutions were conceived together as a group (*e.g. we think; we understand*). These discourse features provide evidence that the participants had formed a new identity as a group, for they have developed a new shared awareness. The data revealed that the Imagining behaviour can be associated with five main discourse features. Each feature is listed below along with an example from the data (all examples are quoted verbatim; no errors were corrected):

1. Strong wish, obligation or desirable choice for positive change expressed through deontic modality:

> Ex. 5 My partner and I think that teaching methods should not be based on gender-related differences. While deciding the learning model to use, teachers should keep in mind any kind of differences, above all those related to individuals and their personality.

2. Possible or tentative solutions/probability of imagined scenario would change education/society for the better expressed through epistemic modality:

> Ex. 6 Something we thought would be fundamental to create an academic environment that would suit both males and females is to have a psychological knowledge about what makes girls and boys, men and women efficient in school in order to create teaching and learning programms that match both's abilities.

3. Conditional clauses/sentences envisaging new solutions/scenarios:

> Ex. 7 If gender equality really means what it is supposed to mean, there should be no difference between male or female academic success, but the two genders should work together and using their own attitudes to do the best work ever. We mean, if we stop differentiating men and women in the academic and professional world, no one gender can limit the other.

4. Mental processes that introduce new imagined scenarios:

> Ex. 8 Therefore we have supposed that a good solution is an academic environment in which there is an equilibrium between the needs of the two genders, by linking together a cooperative and a practical learning process

5. Verb processes introducing specific solutions and change of scenario:

> Ex. 9 My discussion with my partners arose a single solution, which could make it possible both for male and female students to work their way up at university without setting a limit to the achievement of the opposite gender: not to encourage clichés and stereotypes and not to label academic fields depending on the traditional gender predominance.

The findings showed that Question 6 differed from the others (see Annex B) because it explicitly asked participants to brainstorm possible solutions about the issue of gender bias in education. The question also explicitly asked the participants to move beyond the telecollaborative group situation and imagine applying their solutions to other social settings. Both these conditions appear to justify the high number of Imagining instances.

As is shown in these examples, students drew from linguistic repertoires which were different from the wording of the question itself and the text they discussed; they

transformed the answer to question 6 into an opportunity for 'thinking outside the box' and transferred their discussion into an imagined or possible new scenario.

Quantitative analysis of the Questionnaire answers using IPIL provided evidence that instances of behaviours associated with increased intercultural awareness occurred following the telecollaborative exchange; however, there were many of the lower cognitive behaviours and few of the higher cognitive behaviours. Quantitative analysis of Discussion Question answers using IPIL provided evidence of a higher number of the higher cognitive Interacting behaviours. The Interacting behaviours with the nested PI model descriptors were qualitatively analysed and provided strong evidence of participants' mental and verbal phases which are associated with increased intercultural awareness or learning.

5. Conclusions

An innovative aspect of this research study is the use of two models: the Interacting Processes of Intercultural Learning framework (Liddicoat and Scarino 2013) chosen for its ability to assess intercultural collaborative tasks; and the framework of Community of Inquiry and its model Practical Inquiry by Garrison *et al.* (2001) conceived to assess learning within online, group interaction contexts. To the best of our knowledge, neither of these models have yet been introduced as tools to evaluate telecollaborative exchanges for the purpose of investigating increased intercultural awareness.

The study's findings indicate that written answers to questionnaires which were analysed using the model of IPIL do allow for the identification of behaviours associated with increased intercultural awareness. Participants' answers contained many Noticing or Comparing behaviours. In addition, the relatively few instances of the more cognitively complex Reflecting and Interacting behaviours were mostly associated with Meeting 2 which required the most collaboration between partners.

The nested PI model was useful in identifying participants' Interacting behaviours in a group discussion, as gathered from answers to discussion questions from Meeting 2. These findings mirrored the results of the IPIL model: Meetings 1 and 2 elicited the highest number of instances from the lower-to-middle phases of the model, but Meeting 2 elicited many of the more cognitively complex Creating-new-meaning phase. Most interestingly, there were also a number of instances of Imagining-new-situation phase. This last phase is most strongly associated with increased intercultural awareness: the transfer and application of intercultural knowledge from one situation (i.e. the online group interaction) to another (i.e. new social contexts outside the classroom).

In conclusion, the Interacting Processes of Intercultural Learning model proves to be useful in providing evidence of increased intercultural awareness following a telecollaborative exchange. However, focusing on interaction between participants and using the Practical Inquiry model afforded a rich, deep and detailed look at the learner's progression through the phases in order to become more interculturally aware. Both models are useful in assessing a learner's increase in intercultural awareness after telecollaboration; however, Practical Inquiry also allows for an in-depth examination of the changes learners undergo which lead to learning, particularly intercultural learning. Therefore, future investigation should focus on understanding just how to elicit these changes in learners and make the most of the telecolloborative experience.

Bionotes: Anne Mullen, Ph.D. in applied linguistics, teaches English as a second language and English for academic purposes at Université Laval in Quebec, Canada. She has spent more than twenty years teaching second language with a focus on academic writing. She has also taught, supervised, and evaluated practicums for pre-service, second language teachers. She has conducted research into content-based learning, assessment of large scale tests, and currently researches the assessment of online intercultural exchanges.

Maria Bortoluzzi is Associate Professor of English language at the University of Udine, Italy. Her research interests are in the areas of critical discourse studies and teacher education. Her latest research work focuses on the language of online communities and digital resources for language teaching and learning.

Authors' addresses: anne.mullen@elul.ulaval.ca; maria.bortoluzzi@uniud.it

Acknowledgements: We gratefully acknowledge the insightful comments of the reviewers which were instrumental in seeing this work to its conclusion. We would also like to thank Philippe Roy and Thomas Carberry for their time and effort in helping us analyse the data.

References

Akyol Z. and Garrison D. R 2011, *Assessing metacognition in an on-line learning community of inquiry*, in "Internet and Higher Education" 14 [3], pp.183–190.

Belz J. A. 2002, *Social dimensions of telecollaborative foreign language study*, in "Language Learning & Technology" 6 [1], pp. 60-81.

Biber et al. 1999, *Longman Grammar of Spoken and Written English*, Pearson Education Limited, Harlow.

Blommaert J. 2005, *Discourse*, C.U.P., Cambridge.

Buraphadeja V. and Dawson K. 2008, *Content analysis in computer-mediated communication: analyzing models for assessing critical thinking through the lens of social constructivism*, in "American Journal of Distance Education" 22 [3], pp. 130–145.

Byram M. 1997, *Teaching and assessing intercultural communicative competence*, Multilingual Matters, Clevedon.

Byram M. 2012, *Conceptualizing intercultural (communicative) competence and intercultural citizenship*, in J. Jackson (ed.), *The Routledge handbook of language and intercultural communication*, Routledge, Abingdon, pp. 85–98.

Coates K. 2007, March 12, *Snail Males. Why are men falling behind in universities while women speed ahead?*, in "The Walrus" https://thewalrus.ca/2007-03-national-magazine-award-nominee-2/ (21.8.2017).

Dooly M. and O'Dowd R. (eds.) 2018, *In This Together: Teachers' Experience with Transnational, Telecollaborative Language Learning Projects*, Peter Lang, Bern.

Furstenberg G., Levet S., English K. and Maillet K. 2001, *Giving a voice to the silent language of culture: The Cultura Project*, in "Language Learning & Technology" 5 [1], pp. 55-102. http://llt.msu.edu/vol5num1/furstenberg/ (15.6.2015)

Garrison R., Anderson T. and Archer W. 2001, *Critical Thinking, cognitive presence and computer conferencing in distance education* in "American Journal of Distance Education" 15 [1], pp. 7-23.

Halliday M. A. K. and Matthiessen C. M. I. 2004, *An Introduction to Functional Grammar*, Routledge, London.

Hanna B. and de Nooy J. 2009, *Learning Language and Culture via Public Internet Discussion Forums*, Palgrave Macmillan, New York.

Helm F. 2016, Facilitated Dialogue in Online Intercultural Exchange, in O'Dowd R. and Lewis T. (eds.), *Online intercultural exchange: Policy, pedagogy, practice*, Routledge, Abingdon, pp. 150-172.

Helm F. 2018, *Emerging Identities in Virtual Exchange*, Voillans (France), research-publishing.net.

Kramsch C. 1993, *Context and Culture in Language Teaching*, O.U.P, Oxford.

Liddicoat A. and Scarino A. J. 2013, *Intercultural Language Teaching and Learning*, Wiley-Blackwell, London.

O'Dowd R. 2005, *Combining networked communication tools for student's ethnographic research*, in Belz J. and S. L. Thorne S. L. (eds.), *Computer-mediated Intercultural Foreign Language Education*, Heinle and Heinle, Boston, MA, pp. 86-120.

O'Dowd R. 2016, *Emerging Trends and New Directions in Telecollaborative Learning*, in "CALICO Journal" 33 [3], pp. 291-310.

O'Dowd R. and Lewis T. 2016, *Online intercultural exchange: Policy, pedagogy, practice*, Routledge, Abingdon.

Orsini-Jones M. and Lee F. 2018, *Intercultural Communicative Competence for Global Citizenship*, Palgrave Macmillan, London.

Perkins M. R. 1983, *Modal Expression in English*, Francis Pinter, London.

Scarino A. J. and Liddicoat A. 2009, *Teaching and Learning Languages*, Australian Government. http://www.tllg.unisa.edu.au/lib_guide/gllt.pdf (31.3.2017).

Schrire S. 2006, *Knowledge building in asynchronous discussion groups: going beyond quantitative analysis*, in "Computers & Education" 46 [1], pp. 49–70.

Sinicrope C., Norris J. and Watanabe Y. 2007, *Understanding and assessing intercultural competence: A summary of theory, research and practice*, in "Second Language Studies" 26 [1], pp. 1-58.

Annex A

Questionnaire for Contact 1

1. In what ways did you find that you and your partner(s) are similar?
2. In what ways did you find that you and your partner(s) are different?
3. In what ways did you find that you and your partner's speaking styles are similar?
4. In what ways did you find that you and your partner's speaking styles are different?
5. Were there any misunderstandings or difficulties in communicating? What were they? Can you explain why?
6. What was the most interesting part of the first contact?

Questionnaire for Contact 2

1. In what ways did you find that you and your partner's speaking styles are similar?
2. In what ways did you find that you and your partner's speaking styles are different?
3. Were there any misunderstandings or difficulties in communicating? What were they? Can you explain why?
4. Considering the seven discussion questions, which questions created the most discussion between you and your partner? In what way?
5. Considering the seven discussion questions on the previous pages, did your answers vary greatly from your partner's? Which ones? In what way?
6. In general, did the exchange allow you to identify similarities in beliefs and opinions between you and your partner? What were they?
7. In general, did the exchange allow you to identify differences in beliefs and opinions between you and your partner? What were they?
8. What beliefs or opinions raised during the discussion did you find most surprising?

Questionnaire for Contact 3

1. Which type of discussion did you most prefer: the open discussion of Contact 1 and 3, or the discussion centred on the text *Snail Males* of Contact 2? Why?
2. Did you notice a change in the speaking style of your partner(s) in Contact 1 and 3 compared to Contact 2?
3. Did you notice a change in the format of the conversation between you and your partner (s) in Contact 1 and 3 compared to Contact 2?
4. In general, did you learn any particular information from your partner(s) regarding their language or culture? What information in particular?
5. Which type of contact: the open discussion of Contact 1 and 3, or the discussion centred on the text *Snail Males* of Contact 2 allowed you to learn the most about your partner's language or culture? Can you give an explanation as to why?
6. What aspect of the exchanges did you find the most enjoyable?
7. What aspect of the exchanges did you find most bothersome? Do you have a solution?

Annex B

Discussion questions about the text Snail Males (Coates, 2007).

1. The journalist writes that "women continue to drop out of male-dominated professions when they decide to start having families". Can you comment briefly on this comparing your countries and your partner's country?
2. Can you comment on the fact that the type of work required at university favours females? What do you and your partner think about this?
3. In your experience, did you and your partner have more female or male teachers at primary and secondary school? Do you think this fact has had an influence on their student's learning?
4. Do you agree that men in your country earn more money than women with the same educational level? Is this the case in your partner's country? Can you give some examples?
5. Can you report your and your partner's opinion about the statements (in the article) that men have lost their place in society as head of the household and major breadwinner?
6. What do you and your partner think? How can both males and females be encouraged in their academic success without limiting the other gender?
7. In your and your partner's experience, what role does gender play in academic or professional success?