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ARTICLE

Learner autonomy versus guided reflection: How different methodologies affect intercultural development in online intercultural exchange

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Abstract
This paper presents the results of a study exploring the intercultural development of first-year Japanese university students engaged in online intercultural exchange (OIE) using two variations: one implementing guided reflection, and the other relying on the learner autonomy model. Intercultural development was quantitatively measured using the Intercultural Sensitivity Scale (Chen & Starosta, 2000) and qualitatively investigated through participants' written reflections. Results of the OIE using guided reflection showed significant gains in respect for the target culture, whereas the OIE that followed the autonomous learning model yielded significant gains in self-efficacy in relation to intercultural contact. Qualitative analysis of student reflections confirmed these findings and provided insight into the processes involved in achieving these results.

Keywords: online intercultural exchange; social networking; guided reflection; learner autonomy; virtual exchange

1. Introduction

Japan is facing greater competition in the semiconductor and automotive industries (Nicolas, 2016; Sato, Shimizu, Shrestha & Zhang, 2013). Additionally, an aging population requires the import of foreign labour (Bhattacharjee, 2014). In order to prepare the next generation of Japanese workers to function effectively in this global society, Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) has identified interuniversity exchanges between Japanese universities and East Asian universities as key to the development of its global human resources (MEXT, 2010). However, such exchanges face many challenges in terms of language barriers, intercultural competence, and motivation (Yonezawa, 2014). In recent years, virtual exchange (VE) has received increasing attention in the literature as its facilitation of meaningful communication and interaction between students in different geographical locations allows for the learning of both language and culture. This paper presents the results of a study exploring the intercultural development of first-year Japanese university students engaged in one specific type of VE, online intercultural exchange (OIE), using two variations: one heavily guided by the instructor, and one largely autonomous. The study outlined in this paper focuses on the experience of two groups of Japanese nationals engaged in online exchanges. The two exchanges described in this study share many superficial similarities

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in terms of the software and methods used to facilitate interaction; however, there are also significant differences. Although both exchanges used instructor modelling, one exchange was supported by classroom-based guided reflections and discussions and the other was supported by the autonomous learning model. Both exchanges between Japanese and Taiwanese participants relied on English as their shared language. The Lingua Franca approach to language learning has been shown to help learners take a more active role in their language learning experience (Houghton, 2009; Jenkins, 2009) and has been associated with the development of intercultural communicative competence (Byram, 1997; Hülmbauer, Böhringer & Seidlhofer, 2008).

2. Literature review

2.1 Online intercultural exchange

Modern technology has given rise to a form of computer-assisted language learning where students from different locations collaborate via digital technology in their learning with the aim of developing special subject knowledge, language fluency, and intercultural communicative competence. Such interactions are often referred to as VE or telecollaboration. The evolve-erasmus.eu website states that VE "is a practice, supported by research, that consists of sustained, technology-enabled, people-to-people education programmes or activities in which constructive communication and interaction takes place between individuals or groups who are geographically separated and/or from different cultural backgrounds, with the support of educators or facilitators" (EVOLVE, 2018). Especially when used to support intercultural communication, they are often described as OIEs.

Guth, Helm and O'Dowd (2012) reported the results of a survey from 102 teachers in Europe who had experience participating in OIEs. They discovered that 91% of these teachers believed that OIEs could support physical travel to other countries, and that 63% believed OIEs were a viable alternative to physical travel. In addition, 57% of these teachers believed that OIEs should be a compulsory part of education. Interestingly, only 33% of respondents said that true intercultural experience requires face-to-face contact. Despite the many logistical difficulties of managing a OIE, 93% of teachers reported OIEs as positive experiences. The most significant challenge reported by teachers in carrying out the OIEs was differences in institutional timetables. The same study also included a survey among 131 students who had participated in such exchanges. They discovered that among students, 85% felt it was a positive experience, and 76% believed it should be compulsory. Additionally, students said the OIEs had made them more interested in visiting another country (69%), better at using another language (74%), more able to communicate with those of another culture (77%), and more employable (50%).

Despite positive feedback from both teachers and students concerning the value of OIEs, they are still considered to be supplemental to regular study, not usually graded, and not easily supported by traditional learning management system (LMS) technology (Levy & Stockwell, 2006; O'Dowd, 2010). Traditional LMS technology is often little more than an online extension of didactic teaching practice rather than being fundamentally designed around constructivist theory (Craig, 2007). Although there are recent cases of new constructivist LMS designs (i.e. Breen, Record & Fuda Daddio, 2015), they are not yet the norm. So many teachers are forced to rely on technology outside the confines of their university's LMS to conduct telecollaborative projects.

In recent years, a growing number of OIEs have appeared in the literature, with educators often selecting to harness the connective power of social network systems to support interaction between students in disparate geographical locations (e.g. Flowers & Kelsen, 2016; Ke & Cahyani, 2014; O'Dowd, 2016). The first two report on OIEs in an English as a lingua franca (ELF) context with students from Indonesia and Taiwan, and Japan and Taiwan, respectively, connecting via social networking services to interact and share cultural knowledge as part of their English language learning. O'Dowd's (2016) review article describes numerous OIEs connecting students from

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diverse cultural backgrounds on a variety of subjects, such as music, social issues, human rights, and even the programming of robots in a virtual setting. Common themes running through the literature on VE and OIE are the learning of foreign language, communication, collaboration, and 21st century skills within diverse cultural contexts (Luo & Gui, 2018; Wang et al., 2017).

2.1.1 Criticism

Criticism of OIEs includes the claim that it can be difficult to generate authentic interactions, especially when friendship is the assumed motivation for the interaction or when one student's culture is heavily relied upon as a source of discovery motivating the interaction (Hanna & de Nooy, 2009). Others, such as Liddicoat and Scarino (2013), question whether intercultural learning is even taking place; Leask (2015) says that opportunity is offered by OIE but that it is up to teachers to develop critical analysis in their students in order that they may benefit from the interaction. Some have also reported negative effects on intercultural development, such as the reinforcement of stereotypes (Kirschner, 2015). Despite these challenges, teachers are finding new ways to utilize modern technology in increasingly successful telecollaborative exchanges (O'Dowd, 2018).

2.2 Autonomy in online intercultural exchange

Little (1996) defines autonomy as learners taking responsibility for their own learning in a process that encompasses metacognitive aspects as learners are required to (a) establish their own agenda, (b) initiate the learning process, and (c) evaluate their own progress. He further argues that autonomy is "a defining characteristic of all sustained learning that attains long-term success" (p. 204). In a recent interview, David Little and Steven Thorne (2017) discuss the evolving nature of learner autonomy and the opportunities it affords for developing learner agency, decision-making ability, identity formation, and allowing learners to control their learning. Little (Little & Thorne, 2017) describes learner autonomy as "a dynamic of learning and teaching that converts into a discourse," a discourse in which both learner and teacher "increasingly share initiative and responsibility," and "gradually construct the target language" (p. 20). Later in the interview, Little and Thorne discuss how developments in technology and online environments in particular have led to the "rewilding" of learning and discuss how "people are increasingly learning English informally by going online, taking part in games," and engaging in a "technology-mediated environment" (p. 26), thus expressing a contemporary perspective on a concept that has captivated scholars for decades.

Related to the topic of learner autonomy are the various social constructivist theories that generally postulate that students can simultaneously assume both autonomous and collaborative roles (i.e. Bruffee, 1999; Sivan, 1986). In recent years, these concepts have been adapted by teachers employing Web 2.0 technologies (Lee, 2011; Pinkman, 2005; Woo & Reeves, 2007). Social interaction and collaborative construction of knowledge allows students to develop not only their analysis, communication, decision-making and evaluation skills but also their autonomy due to the fact that teachers take a facilitative role rather than an authoritative role in such student-centred classes (Bruffee, 1999). Language teachers have embraced social networking technologies, readily incorporating them into language learning contexts due to their omnipresence and familiarity. Acknowledging the extent of such technological trends in EFL environments, Steel and Levy (2013) infer that language learning students "are becoming more independent and autonomous, and more able to use their own technologies purposefully to meet their goals" (p. 319). In agreement with this tendency, Reinders and White (2016) argue that "we are currently entering a phase in educational practice and thinking where the use of technology is enabling a shift of focus away from the classroom—and indeed in some cases formal education—taking instead the learners' lives and their experiences as the central point for learning" (p. 143).

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Therefore, it would appear that the autonomy afforded by recent advances in technology has created a virtuous situation, with students organically becoming more autonomous due to their natural interactions with the technological landscape around them. Previously, Sockett and Toffoli (2012) have claimed that the availability of social networking sites and the globalization of English-based media challenges the traditional model of learner autonomy. They argue that the learner autonomy model is "less relevant than it once was as a way of describing and prescribing the learning of English" (p. 149). However, in discussing telecollaboration in particular, O'Dowd (2016) states, "As practitioners and researchers, it is our challenge to anchor the activity within sound pedagogy and relevant research methodologies which demonstrate its value to education" (pp. 304–305).

2.3 Guided reflection

One of the concerns involving intercultural encounters is that rather than resulting in intercultural development, there is also the possibility that they will simply result in the reinforcement of preconceived stereotypes (Guth, Helm & O'Dowd, 2012; Kirschner, 2015). Guided reflection is often suggested as a means for moving past the simple reinforcement of stereotypes and moving towards intercultural communicative competence (Aamaas, Duesund & Lauritzen, 2017; Campbell & Walta, 2015; Kirschner, 2015; Pedersen, 2010). In 2009 and 2010, Pedersen conducted a series of comparative studies of intercultural development among students studying abroad and discovered significant improvements in intercultural integration among those who engaged in classroom-based guided reflection over those who did not (Pederson, 2009, 2010). Aamaas et al. (2017) and Campbell and Walta (2015) draw similar conclusions highlighting the importance of guided reflection as part of the process of healthy cultural integration in overseas study programs. Taking us into the digital age, Kirschner (2015) finds reflection to be an important part of the process of helping to avoid stereotype reinforcement in VE. Guided reflection has also been shown to support OIEs in developing respect for cultural differences in the East Asian context (Flowers & Kelsen, 2016).

Reflection is not a new concept to education. Kolb (1984), for example, came up with a schema for experiential learning that includes reflection as one of the key stages in the process of a transformative experience. However, as reflection on experience is entirely subjective to the experience itself, a one-size-fits-all method for classroom-based reflection may be difficult to define. Furthermore, guided reflection is a balancing act between instructor-led discussions and student-centred learning. Reiman (1999) describes guided reflection as a complex and seemingly ethereal balance between Vygotskian social learning and Piagetian internal development. He further articulates a balancing act of hybridization between Vygotskian and Piagetian theories into the following statement:

> The process of trying to understand the thinking, feeling, and conceptual development of the learner and the learner's construction of a problem and how it needs to be reframed or expanded is what provides the bi-directionality in the learning relationship and what results in the co-construction of reality between the more capable other and the learner, and shows the natural symbiosis between the ideas of Vygotsky and Piaget. (p. 601)

Some have attempted to provide a structured framework for guided reflection, such as it may be defined. Ash and Clayton (2004), for instance, have described their framework as (a) description (objectively) of an experience, (b) analysis in accordance with relevant categories of learning, and (c) articulation of learning outcomes (p. 140). And while this framework seems to help in providing a starting point for understanding the process, it could also be argued to be a gross oversimplification of the nature of guided reflection. The complexity of Reiman's (1999)

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description seems important to keep in mind, as it provides a deep sense of the delicate balance in the relationship between instructor, learner, and cultural informant, which seems fundamental to the process.

3. Research questions

While guided reflection seems to be a greatly beneficial method, it is not always possible due to time constraints or the skill of the instructor in leading such a complex method of learning. This research attempts to explore situations where teachers may or may not have the time, inclination, or resources to pursue guided reflection methods in support of OIE. In such cases teachers may wish to employ the learner autonomy model. Although there are many studies on autonomy, and guided reflection, we could not find a study that compared the autonomous learning (AL) model with the guided reflection (GR) model in developing intercultural sensitivity in OIEs. This study seeks to answer the question: How does AL compare with GR in OIE with all other factors being relatively equal?

4. Method

4.1 Participants

All participants in this study ($n = 69$) were first-year male and female students in the School of International Politics, Economics and Communication at Aoyama Gakuin University (AGU) in Japan. They were all enrolled in comprehensive English courses of the same title, with the same teacher, using the same textbook. They were rated as independent English users (CEFR B1–B2). For the purposes of this study, they were divided into three experimental groups: a guided group ($n = 23$), an autonomous group ($n = 18$), and a control group ($n = 28$). The participants in this study were highly homogeneous in nature, with the only major differences between them being the methods used in supporting the OIE.

It should be noted that the participants in this study come from a culture influenced by Confucian values. This is important to note when comparing their method of interaction with that of, for example, European cultures using similar methods. In a recent study among 1,631 college students from China, Korea, Taiwan and Japan, it was shown that youth in Confucian cultures value respect for interpersonal harmony, relational hierarchy, and traditional conservatism (Zhang, Lin, Nonaka & Beom, 2005). This suggests that the participants in this study require different protocols for interaction than those from non-Confucian cultures. As an example, in a study comparing Korean and American college students' use of social network sites, it was shown that online personalities reflected offline personalities and that those from the Confucian-influenced culture maintained smaller and tighter networks and had less frequent moments of self-disclosure, while at the same time having more self-perceived vulnerability in their self-disclosure (Cho, 2010). Therefore, the national character of the participants of this study heavily influenced the suggested topics used in supporting the interactions between them and their interlocutors.

4.2 Procedure

The guided group and the autonomous group each participated in an OIE with students at a university in Taiwan using two different methods. The guided group, as the name suggests, was heavily guided through the exchange by the instructor utilizing large amounts of classroom time for guided discussions along the lines of Reiman's (1999) balance between instructor and learner with a basic framework of description of the exchange, discussion of problems, analysis of possible reasons for the problems, and brainstorming solutions similar to Ash and Clayton

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(2004). The autonomous group followed the traditional autonomous learning model of self-set goals, self-determined methods, and self-reflection (Bandura & Locke, 2003). In contrast, the control group watched an English drama, which was supplemental to their language textbook and which dealt with cultural differences between London and New York.

Quantitative measurements of participants' intercultural sensitivity were taken using the Intercultural Sensitivity Scale (ISS) developed by Chen and Starosta (2000). The ISS is a 24-item, self-report, Likert-style questionnaire that attempts to measure the respondent's level of positive emotion towards understanding and appreciating cultural differences. The ISS attempts to do this by focusing on five elements: (1) Interaction Engagement, (2) Respect for Cultural Differences, (3) Interaction Confidence, (4) Interaction Enjoyment, and (5) Interaction Attentiveness. The ISS was distilled down from 73 items through sampling and statistical reduction to its current 24-item form, which was shown to be "highly internally consistent" ($\alpha = .86$) within its context of United States college students (Chen & Starosta, 2000, p. 11) and relatively consistent with similar and more widely used instruments (p. 12). The ISS has been used in other studies as well in the United States (Dong, Day & Collaço, 2008), Germany (Fritz, Mollenberg & Chen, 2001), China (Peng, 2006), and Japan (Flowers, 2015; Flowers & Kelsen, 2016). In this present study, a Japanese translation of the ISS (Flowers, 2015) was given to participants in a pretest–posttest fashion, with the results of the two tests compared to determine if any changes to their intercultural sensitivity had occurred as a result of the exchange. Participants were also asked to write reflections about the exchange in order to compare their reflections with the results of the ISS questionnaire. As the participants' English level was relatively high, they were asked to write their reflections in English.

4.2.1 Guided group

The guided group participated in an eight-week OIE. They were randomly placed into private Facebook groups of roughly eight members (four from Japan and four from Taiwan). They were given weekly topics to post on, and their teachers initiated the start of each week's topic with posts of their own. The topics were mostly introduced with an intercultural objective attached, such as to share food culture or music culture. Posts consisted of pictures, video, and text. As both these cultures value relational hierarchy (Zhang et al., 2005), students received soft pressure to participate through the instructors' participation in the exchange.

Early on, it was clear that some groups were having more success than others communicating with their intercultural partners. Some even claimed that their partners were completely inactive, and they wanted to change groups. Students were not allowed to change groups; rather, they were encouraged to engage in discussions with their classmates and to find possible solutions to the problems they were having. For example, early in the exchange some groups believed their Taiwanese interlocutors were disinterested in Japan. Through discussion, we considered other possibilities. It turned out that some of the Taiwan-based participants were senior students and were engaged in a variety of job-hunting activities while others had part-time jobs. Additionally, the exchange began near the beginning of the Taiwanese students' midterm examinations, so they were less active at the start.

Through guided reflection and discussions, we also found cause for a lack of interaction on the Japanese side. For example, in looking through the group pages it was discovered that at least one Taiwanese student's post had been completely ignored. It was a very important post as it was her self-introduction. She had given enough detail to offer opportunity for response, yet no one had responded. Either the Japanese participants had not noticed it, or they had not taken any initiative to respond to it. This led to a discussion regarding the fact that many of the Japanese students were passive in their interaction, relying heavily on the "like" button. Many of them had been reading the Taiwanese participants' posts but were not actively responding. This was seemingly out of fear due to self-perceptions regarding their own language ability; however, it could also have been

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due to the more conservative nature of the Japanese in general, even among other Confucian-influenced cultures (Zhang et al., 2005).

The guided group was assigned two formal presentations. Required content for the presentations was given by their teacher. For the first presentation, only a few weeks into the exchange, they were asked to introduce their Taiwanese interlocutors to the rest of the class. They gave slideshow presentations, showing pictures, and describing their Taiwanese partners using information they had learned through their interactions and in some cases found on their profile page. For the second presentation, at the end of the exchange, they were asked to describe how they had grown personally through the exchange and how their views of Taiwan had changed. They were also asked to describe how they felt they had affected the Taiwanese students' perceptions of Japan and to discuss the results of a "burning question" they had asked their interlocutors (explained as a question that they had previously been afraid to ask).

4.2.2 Autonomous group

The second test group participated in a much more autonomous online exchange with students at the same university in Taiwan. Guided reflection was not conducted in the classroom. Rather, students were asked to come up with their own individual goals for the exchange and to decide on their own methods for achieving those goals. Although the exchange was scheduled for 8 weeks, like that of the guided group, the time from when the students joined their Facebook groups until their final reflective presentations were due was 12 weeks.

At the beginning of the exchange, participants were given a brief description of the exchange, and results from a previous exchange were shown to them in order to spark their interest in the project and motivate them to participate. They were not placed into small Facebook groups as those in the guided group were, but instead were asked to join groups loosely based on themes like sports, food, or music. As an initial icebreaker, students were asked to make a short video introducing their campus and to post it to their group page. Then, during the next few months, the teacher from Taiwan occasionally introduced suggested topics for posting, such as favourite food, favourite place, favourite possession, favourite music, etc. Some of the students followed suit, posting pictures and messages of their own based on the topics. After a month, participants were assigned a short presentation where they introduced one person from the other class as a minimal form of accountability to the project.

Teachers posted routinely to the group pages concerning the icebreaking topics and other events from their own lives. Some of these posts included shared professional development activities, such as pictures from a conference they both attended. One of the posts included screenshots of the teachers chatting with Messenger using the video chat function, and a challenge was placed to the students to try and do the same with someone from the partner class. Although there was some posting of messages to the whole group in the early weeks of the exchange concerning the first few icebreaking topics, public posts from the autonomous group students seemed to decline after the first month. However, some student public posts continued to appear, with a number emerging well after the exchange officially ended. During their final reflective presentations, it was discovered that 50% of the participants had shifted from the public platform to private exchanges using Messenger, with some using the video chat function.

The autonomous group participants were required to come up with their own goals for the exchange, and they were assigned individual presentations at the end of the project where they needed to reflect on their goals. Their presentations included (a) their goals for the exchange, (b) how they had tried to achieve their goals (providing evidence in the form of screenshots), and (c) reflection on the outcome of the exchange. Additionally, participants were encouraged (but not required) to ask a "burning question".

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Table 1. Rating scale instrument criteria

Criteria	Critical value
Item measurement reliability	.90 to .94 is very good; > .94 is excellent
Item strata separation	Minimum of 2.00
Item model fit mean-square range	.5 to 1.5 is acceptable; .6 to 1.3 is very good
Variance explained by the Rasch measures	>50% is good
Unexplained variance explained by first contrast (eigenvalue)	<3.0 is good

4.3 Analysis

4.3.1 Quantitative analysis

Rasch analysis (RA) is a method that can be used for modelling latent traits, with the advantage that it converts ordinal scales into interval measures, thereby creating linear measures that can be used for parametric statistical analysis. It can be a more powerful way to examine Likert-style results, particularly where sample sizes may be small. As such, RA was deemed a suitable tool for analysis of the data obtained from the ISS. In the present study, RA was conducted followed by a MANOVA to determine any significant differences between groups for factors within the ISS. RA was first conducted for each of the five factors of the ISS to confirm the validity and reliability of the scale. Each factor was checked for unidimensionality using the following criteria: (a) item reliability and item separation were sufficiently high, (b) no items misfit the Rasch model, (c) the variance explained by the measures was sufficiently high, and (d) the unexplained variance explained by the first contrast was less than 5% or less than an eigenvalue of 3.0 (Linacre, 2009). (See Table 1 for the rating scale criteria used to check the validity and reliability of the ISS instrument.)

Furthermore, a Rasch–Likert scale category functioning analysis was carried out to determine whether the 5-point Likert scale performed effectively. A 5-point Likert scale, with 1 representing *strongly agree*, 3 representing *uncertain*, and 5 representing *strongly disagree*, was used in this study. The following criteria for good rating scale functioning were checked (Linacre, 2002):

1. There are at least 10 observations for each step of the scale.
2. The average person measure for each step should be higher than the average person measure of the previous step.
3. Outfit mean square of each step should be less than 2.0.
4. There should be gaps in step difficulties of no less than .81 logits for a 5-point scale, and 1.1 logits for a 4-point scale.
5. Gaps in step difficulties should be less than 5.00 logits.
6. In the event the criteria for the 5-point scale were not met, Likert scale categories were collapsed until they met the criteria proposed by Linacre (2002).

4.3.2 Qualitative analysis

In addition to the ISS instrument, a random sampling of participants was also asked to report their personal reflections about the exchange, including their goals for the exchange. Following a basic grounded theory approach, these reflections were examined for trends in their reporting and those observed trends placed into categories that were then counted to determine the percentage of similar responses among participants (Glaser & Strauss, 1967; Savin-Baden & Major, 2013). In some cases, themes that were directly correlated with results from the quantitative analysis were labelled with similar descriptive language to that used in the ISS questionnaire. Where the themes

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Table 2. A summary of the five factors

Factor #	Name	IS	IR	# of items used	Variance accounted for by model (%)	Eigenvalue of first residual
1	Interaction Engagement	3.14	.90	6	39.7	1.88
2	Respect for Cultural Differences	3.06	.91	6	46.0	1.91
3	Interaction Confidence	3.11	.91	4	64.6	1.51
4	Interaction Enjoyment	8.60	.99	3	73.8	1.73
5	Interaction Attentiveness	4.52	.95	3	57.6	1.65

Note. IS = item separation; IR = item reliability.

Table 3. Mean scores and standard deviations for measures of the five factors of the ISS

		Interaction Engagement		Respect for Cultural Differences		Interaction Confidence		Interaction Enjoyment		Interaction Attentiveness	
Group	*n*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Control	29	0.324	1.035	−0.827	1.532	−0.240	2.298	0.868	1.460	−0.202	1.796
Guided	23	0.463	0.483	−0.026	0.739	−0.850	1.142	0.818	0.399	0.102	0.298
Autonomous	18	0.424	1.531	−0.806	1.199	1.591	1.876	1.485	1.519	0.122	1.732

and assertions were disputed by the researchers, negotiation took place of whether to retain or drop the claims. This mixed methods approach (Teddlie & Tashakkori, 2009), combining the use of both quantitative and qualitative data, was used in this research with the belief that such a strategy could assist in improving the trustworthiness of the data and enhancing the rigor of the analysis and results.

5. Results

5.1 Results of the ISS instrument

All criteria for each factor were met except for the observed variance accounted for by the model in the first two factors; however, after looking at secondary criteria and taking the expected values such as unexplained variance in the first contrast into account, the values were deemed acceptable for our purposes (Linacre, 2002). (See Table 2 for a summary of the five factors of the ISS instrument.)

After obtaining the Rasch measures for each factor, a MANOVA was conducted on pre-post values across the three experimental groups: guided, autonomous, and control. Using Pillai's trace statistic for the omnibus MANOVA, there was a significant difference among the three groups in terms of intercultural sensitivity, $V = 0.64$, $F(5,63) = 22.81$, $p < .001$. (See Table 3 for the mean scores and standard deviations for each factor.)

Separate univariate ANOVAs on the five factors revealed that only Respect for Cultural Differences and Interaction Confidence were significant, $F(2,67) = 3.18$, $p < .05$ and $F(2,67) = 9.03$, $p < .001$, respectively (see Table 4). Furthermore, planned contrasts on these two factors were carried out to determine which group was significant. Simple contrasts revealed that the guided group reported on average significantly higher Respect for Cultural Differences values than both the control group, $t(42.22) = 2.47$, $p < .05$, $d = 0.8$, and the autonomous group, $t(26.78) = 2.42$, $p < .05$, $d = 0.9$. Conversely, the autonomous group reported on average significantly higher

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Table 4. Multivariate and univariate analysis of variance for the five factors of ISS

	ANOVA $F(2,67)$				
MANOVA $F(5,63)$	Interaction Engagement	Respect for Cultural Differences	Interaction Confidence	Interaction Enjoyment	Interaction Attentiveness
22.81***	.12	3.18*	9.03***	1.80	.39

*$p < .05$. **$p < .01$. ***$p < .001$
Note. F ratios are Pillai's trace approximation of F.

Table 5. Themes found in reflections collected from the guided group participants ($n = 12$)

	Intercultural information exchanged	Respect for intercultural differences gained	International politics experience gained	Intercultural confidence built	Language development
n	8	6	1	4	3
%	67%	50%	8%	33%	25%

Interaction Confidence values than both the control group, $t(41.53) = 2.98$, $p < .01$, $d = 0.9$, and guided group, $t(26.56) = 4.86$, $p < .001$, $d = 1.9$.

5.2 Reflections from the guided group participants

Reflections were collected from a random sampling of the guided group at the end of the exchange. Table 5 represents a summary of the themes found in the reflections. Some representative samples of the salient themes arising from the reflective texts follow.

5.2.1 Representative samples of guided group participant reflections

The most common quality of the communication students expressed was their exchange of intercultural information:

> As we talked with Taiwanese students, we could learn about Taiwanese culture; food, music, movies, and so on. It was interesting that there were some similar points between Japanese culture and Taiwanese culture. The more I had exchange with them, the more I wanted to interact with lots of foreign people, and I considered how foreigners think of Japan. (Participant 1, m)

Another theme that emerged was a gained respect for cultural differences, as can be seen in the following sample:

> When I first heard about this exchange project I hated it because it looked troublesome. I also thought that I had no idea how to communicate with them. But, through self-introductions and many topics I gradually felt this exchange was a fun and valuable experience. For example, if I hadn't interacted with them I wouldn't know about Taipei. So, now I am glad we did this. (Participant 2, f)

As the students progressed through the exchange and gained experience and knowledge of their counterparts and their culture, the theme of intercultural confidence building emerged. Importantly, this intercultural confidence appeared as a precursor to developing respect for the other culture:

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Table 6. Themes found in reflections from the autonomous group participants ($n = 16$)

	Self-identified goals			Self-reported results				
	Friendship	English development	Intercultural information exchange	Friendship	English development	Intercultural information exchange	Int. political understanding	Hope for the future
n	8	6	10	9	3	14	3	4
%	50%	38%	63%	56%	19%	88%	19%	25%

Note. *n* = number of participants who mentioned this theme in their reflections. % = percentage of participants who mentioned this theme in their reflections.

> At first, I contacted Taiwanese students passively because I lost confidence that my posted photos and videos were interesting to them. But one day I commented to [name omitted]'s post. After that, she replied to my comment. Then, I was so happy about her reply, so I thought I'd like to exchange with Taiwanese students more! After I exchanged with them, I thought I was given a great opportunity to contact foreigners. I came to think I'd like to contact or exchange with different culture's people more, through this exchange. (Participant 3, f)

Finally, one of the most challenging and interesting characteristics to originate from the reflective scripts was the gaining of international politics experience as students sought to acquire a deeper understanding of their counterparts. A salient example of this type of interaction shows us how this also led to a more profound understanding of and respect for the partner's culture while highlighting the multifaceted nature of the reflective responses:

> Also, I wanted to see Japan objectively, so I asked a question about what images of Japan do Taiwanese have, on Facebook, and a few Taiwanese answered. According to them, they think Japan is a traditional, innovative, and high quality [country] because of old structures, culture, nature, economy, and technology. However, some people hate Japan [due to] historical problems. This fact made me a little depressed, but one of the Taiwanese students mentioned these problems can [be] resolved by communication and respect. I was amazed at his words and admired his thoughts and then realized such exchanges between younger generations are crucial to deepen mutual understanding. Therefore, I'll find opportunities that bring me to exchange with foreign people and make efforts to comprehend each other. (Participant 1, m)

5.3 Reflections from the autonomous group participants

Reflections were collected from a random sampling of the autonomous group at the end of the exchange. Table 6 represents a summary of the themes found in the reflections. Two representative samples are also included after Table 6.

5.3.1 Representative samples of autonomous group reflections

Following the exchange, students identified three main goals they hoped to achieve during the interaction with their peers. Common themes running through the self-identified goals were friendship, developing English ability, and exchanging intercultural information. At times these goals overlapped with students setting multiple expectations for the exchange:

> Goals: Make friends with NTPU students, improve English skills, [and] exchange information about [our] home country [with] each other (for example, food, culture, etc.).

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> To achieve these goals, I've chatted with NTPU students by using Facebook Messenger and LINE, especially [name omitted] (From Mainland China). (Participant 4, m)

Several significant themes emerged from student reports of their learning outcomes. Although most of the outcomes were along the lines of their goals, such as achieving friendship with their partners, developing English communication skills, and exchanging cultural information, a few unintended outcomes were reported, specifically an understanding of international politics and a feeling of hope for the future. Again, these themes intersected as friendship developed through the exchange of cultural information and, in some cases, fostered confidence to broach topics regarding international politics, from which a deeper understanding of each other and aspirations for the future were derived:

> She answered my questions very concretely and politely. And she gave me a lot of information about her home country and her life at NTPU. The "burning question" I asked her was about historical issues between China and Japan and Taiwan ... She thinks she [has] touched a different part of Japan when she is in China and Taiwan ... Most importantly we must see the world through our own eyes. We cannot be the tool of politics. This is what she thinks. I was given a chance to rethink about historical issues and relationships with China and Taiwan [through] this exchange program. And, I could make friends with NTPU students. So, this exchange program is a very precious experience for me. (Participant 4, m)

6. Discussion

6.1 The guided exchange led to respect for cultural differences

The guided group experienced a large and significant increase in the factor Respect for Cultural Differences over the control group ($p > .05$, $d = 0.8$) and the autonomous group ($p < .05$, $d = 0.9$). This newly gained respect for cultural differences was confirmed by student reflections, where 50% reported that they gained respect for the culture of their interlocutors. These results seem most related to the intercultural tone of the interaction and to the classroom-based guided reflections.

Gallois (2003) argues that positive results in intercultural encounters are not achieved by simply taking the interpersonal communication paradigm and applying it to intercultural communication, but that participants must be trained to critically analyze areas of possible miscommunication and misunderstanding so that they do not reinforce negative stereotypes about the other. In the case of the guided exchange, participants faced many problems initially, which, if left unexamined, could potentially have led to the reinforcement of negative stereotypes. Through classroom discussion, the guided group participants overcame many of the challenges they faced, and this seems to have been a major factor in developing respect for their interlocutors; this theme of overcoming intercultural obstacles and developing respect for the target culture was also heavily represented in their reflections. In contrast, the autonomous group participants did not have this opportunity for classroom discussion. Any intercultural challenges they faced were faced in isolation. On the whole, there was no significant gain found in the Respect for Cultural Differences factor among the autonomous group, and this was not a major theme found in their reflections.

Pedersen's (2010) study showed that guided reflection makes a significant difference in developing an understanding of differences in the target culture over experience alone. Bandura (2016) equates social modelling and observational learning with increased speed of development. Observational learning and guided reflection were both supported heavily in the exchange experienced by the guided group participants. Observational learning was supported through the use of a Facebook group page for interaction, and guided group reflections were conducted on a regular basis in the classroom. The benefit this had may be most observable through the results of the "burning question" prompt.

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Toward the end of the exchange, both groups were prompted to engage in discussion with their interlocutors on more sensitive intercultural topics by asking their interlocutors a "burning question." Clearly, there is a risk to this type of interaction, as Gallois (2003) and others (i.e. Hanna & de Nooy, 2009) have pointed out – the interaction could lead to the reinforcement of negative stereotypes. Helm (2013) argued that we should not shy away from sensitive topics as they offer the most potential for meaningful bridge-building; however, she engaged participants in a guided manner with involvement from experienced intercultural communicators. In the present study, the "burning question" prompt led to discussion of some sensitive topics among participants in both exchanges (such as Japan's colonial period). However, only the group that engaged in a group-based online exchange and who were guided in classroom-based discussion and reflection showed significant development of intercultural respect, further highlighting the potential value of an interdependent model that includes instructor involvement, guided reflection, and group discussion.

6.2 The autonomous learning model supported gains in interaction confidence

The group that engaged in autonomous goal setting for the exchange and individual reflection at the end of the exchange experienced a very large statistically significant increase in Interaction Confidence over the control group ($p > .01$, $d = 1.2$) and the guided group ($p < .001$, $d = 1.9$). Participants' goals were diverse and somewhat evenly distributed between friendship development, language development, and intercultural exchange. While some aspects of the exchange, such as friendship development, may have been influenced by the structure of the exchange, including the interpersonal nature of the teacher prompts and modelling, the gains in confidence experienced by participants can be attributed to the autonomous nature of the interaction. This autonomy included the opportunity for unobserved communication outside the eye of the teachers, and classroom-based guidance through the traditional autonomous learning model of self-set goals, self-determined methods, and self-reflection on the results of one's chosen methods.

Many studies have focused specifically on learner anxiety and willingness to communicate (i.e. Horwitz, Horwitz & Cope, 1986; MacIntyre & Gardner, 1994; Young, 1991). In Japan, anxiety has also been the subject of many studies in language development (i.e. Kitano, 2001; Williams & Andrade, 2008). Williams and Andrade (2008) discovered that for Japanese university students in an English class, the fear of making a bad impression or receiving a negative evaluation from their teacher was their greatest contributor to anxiety. In the case of the present study, most of the guided group students' communication took place on their Facebook group page, with their teachers being active in the exchange and visible both through contributing comments of their own and using the "like" button as a form of passive engagement. It is possible this added a level of anxiety to the interaction. However, many of the autonomous group students communicated in private using the Messenger app on their smartphones (in some cases even using the video chat function). The possibility for one-on-one chat with their interlocutors without their teacher's direct observation may have been an important contributor to their willingness to communicate.

The guided group did not engage in individual goal setting; however, the autonomous group did. Goal setting itself is a topic that can be expounded upon far beyond the scope of this study. In a very simple sense, there is the possibility of poor outcomes through goals set by others (i.e. Shatz, 2015), whereas self-set goals have been observed to result in positive outcomes (i.e. Bandura & Locke, 2003; Morisano, Hirsh, Peterson, Pihl & Shore, 2010; Schunk, 1990; Sorrentino, 2006). As an example, Morisano et al. (2010) compared the effect of self-set goals on university students' academic achievement and discovered a significant increase in GPA among at-risk students who experienced a goal-setting intervention. The many studies on goal setting would seem to suggest that even in the case of developing intercultural communicative competence, goal setting may be an important

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contributor to the outcome of an online intercultural exchange. Bandura and Locke (2003) argue that even just the act of setting goals for oneself increases performance from the very beginning of an activity. Furthermore, they also assert that the achievement of self-set goals supports increases in self-efficacy, the setting of higher goals in future endeavours, and increased self-satisfaction. This is important, especially considering the challenge to traditional learner autonomy practices issued by Sockett and Toffoli (2012). In terms of this present study, the participants' goals for the exchange ranged widely; however, the opportunity to communicate privately based on self-set goals for the interaction seems to have supported the development of self-efficacy in the participants.

7. Conclusions

This paper reports on a study comparing two different learning environments to support OIE between Japanese and Taiwanese university participants. Although the relatively small nature of this study makes any overarching claims difficult, the results of this study were statistically significant and seem in line with previous studies in the areas of guided reflection (i.e. Pedersen, 2010) and autonomous learning in general (i.e. Bandura & Locke, 2003) and indicates that the previous pedagogy is still relevant in the age of VE. Furthermore, the relatively short period of the exchange meant that the number of topics covered was somewhat limited, as was the available time to examine them thoroughly. Nevertheless, students made significant effort to engage more than superficially on most of the topics introduced by the instructors. In light of these findings, a further extension of this study may be to lengthen the duration over multiple semesters to take a more longitudinal perspective of the development of interaction and intercultural knowledge and understanding as the exchange progresses. Additionally, delayed post-tests and interviews could be conducted to determine what long-term effect these types of exchanges have, and whether or not contact between participants continues beyond the classroom experience.

In this study, guided exchange was effective in supporting the development of respect for cultural differences among participants, while the autonomous exchange supported the development of self-efficacy with regard to intercultural competence. As both of these factors contribute towards intercultural communicative competence, it seems logical to suggest that they can both play a role in the overall development of learners. Moving forward, new forms of VE are likely to emerge with advancements in technology (see Blyth, 2018). However, it would be good for educators to remember the value of instructor support in both guiding participants in reflective analysis of the interactions they are participating in and assisting in the process of autonomous learning through helping participants to set goals, determine methods, and reflect on achievements. It also seems that it could be beneficial to establish a method of incorporating guided reflection into the autonomous model, perhaps allowing for the benefits of both methods to be achieved during a VE program.

It is also important to note the cultural differences in approaches to OIE that take place among participants in the East Asian setting, where confrontation is generally avoided. Whereas Helm (2013) uses a facilitator to engage mostly European learners in potentially divisive topics, in all of the exchanges in this study (both guided and autonomous), friendship building emerged as the first and foremost trend among successful participants. Only after the participants had spent a significant number of weeks getting to know each other, did they eventually feel comfortable enough in their self-disclosure to voluntarily engage in deeper and more potentially divisive intercultural topics, such as political topics and topics of a historically sensitive nature. This approach may seem trite to those from a different cultural background; however, it is highly significant to the East Asian setting, and we feel particularly so with Japanese learners. There is little doubt that VE and OIE will continue to develop and take on new forms as technology progresses and educators explore new methods of communication and interaction across borders. It is hoped that the present study assists instructors in understanding their role in conducting OIE and offers valuable guidance for future exchanges.

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Ethical statement. This research was conducted in accordance with the ethical regulations of Japan regarding research conducted with university students. The researchers have no conflict of interest regarding the research or its findings. The experiment design was co-constructed by the researchers to the best of their ability with the goal of maintaining the integrity of the research and as described in the Method section of this paper.

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