Educational Affordances of an Asynchronous Online Discussion Forum for Language Learners

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Abstract

Information and communications technologies offer unprecedented opportunities for innovation in educational practice. Among all the educational technological tools, online discussion forums represent one of the most extensively adopted educational media in higher education. Yet a review of the literature indicates a lack of empirical studies investigating how learners utilize this tool to afford their language learning. This study aims to address this gap in the literature. Using thematic analysis, postings of 20 second language (L2) learners in a peer-moderated online discussion forum were analysed. Qualitative thematic analysis of the data revealed that the online discussion forum facilitated the co-construction of subject matter knowledge and enhanced learners' critical understanding. The postings also showed that during the interactive, collaborative inquiry, students encouraged and helped each other emotionally and academically which helped foster group affiliation and learner autonomy. These findings suggest that the online discussion forum has many affordances which are conducive to effective learning. The paper concludes with pedagogical implications and suggestions for future research.

Keywords: asynchronous online discussion; affordance; learner autonomy; language learning; e-learning; educational technologies

Introduction

With the advent of technologies, the last few decades have witnessed a wide application of computer-mediated communication (CMC) to both blended and online courses in a number of disciplines. Among all the educational technological tools, e.g., Moodle, Blackboard,

Screencasting, MOOCs etc., web-based asynchronous online discussion forums appear to be the most extensively adopted platform to support and complement current educational practice (Guan, 2014; Loncar, Barrett & Liu, 2014; Thomas, 2013). Online discussion forums are usually a text-based environment that occurs asynchronously, referring to online communication that does not occur "in real time" (Jonassen, Howland, Moore, & Marra, 2003, p. 75). The asynchronous feature enables individuals to discuss and exchange opinions by writing posts and responding to the contributions of others without the constraints of time and place.

A substantial body of research (Cho, 2016; Dzubinski, 2014; Ghadirian, Salehi & Ayub, 2018; Guan, 2014; Loncar, Barrett & Liu, 2014) within educational contexts has recognized the enormous potential of asynchronous online discussion (hereafter referred to as AOD). AOD, for instance, affords learners opportunities to reflect and do research before responding, which may result in higher quality contributions. Another often-cited benefit is the non-threatening and collaborative learning environment that an asynchronous approach may create, which may promote collaborative learning and facilitate knowledge acquisition. Although online discussion boards promise to have beneficial affordances for learning, a review of the literature indicates that most published work is from different disciplines of higher education (Guan, 2014; Loncar, Barrett & Liu, 2014; Thomas, 2013). Empirical studies on the use of AOD are scant in the field of second language acquisition. Therefore, the potential of asynchronous communication for language learning is unclear and research is warranted to identify the opportunities that AOD can provide for language learners. This study was designed to fill in the gap in the literature by providing insights into how language learners engage with the online discussion forum and utilise it to facilitate their learning.

This study is significant in theory and practice. Theoretically, the empirical evidence provided by the study will further our understanding of the affordances of an asynchronous approach for language learning. More practically, findings from the study may inform the design and development of classroom tasks and activities to promote better learning outcomes for language learners.

Review of the Literature

Affordance Theory

Originally coined by Gibson, the term 'affordance' has become increasingly popular across many disciplines. Gibson (1979) defines affordance as "what it *offers* the animal, what it *provides* or *furnishes*, either for good or ill It implies the complementarity of the animal and the environment" (p. 127, italics by Gibson). There are two key components in Gibson's definition. First, it is the notion of the invariant properties of objects. An affordance is a particular property of the environment that is relevant to an active, perceiving organism in that environment. However, while an affordance allows actions, it neither triggers nor causes them. This leads to the second dimension of the definition: a reciprocal relationship. In other words, an affordance exists as long as the person (or animal) takes the necessary actions to utilize it. In a nutshell, the key to Gibson's work is that whilst objects have constant properties, their affordances need to be perceived and acted upon by active agents.

The concept of affordance suggests a way of seeing the world as a meaning-laden environment which offers countless opportunities for actions (Hammond, 2010). Not surprisingly, the notion has been employed in a wide range of fields over the past few years. It has become particularly relevant and promising to educational contexts since the arrival of digital technologies. Framing our analysis through the lens of affordance theory, this study aims to give an in-depth understanding of actions that active learners undertake in an online discussion board to afford their learning.

Research on the Use of Asynchronous Online Discussion

In recent years, AOD has caught the attention of many educators across disciplines. A review of the literature in higher education reveals several benefits of using online discussion forums to enhance teaching and learning. The most frequently cited benefit is the collaborative environment that online discussion forums generate for knowledge co-construction. The interaction that occurs within AOD typically involves an audience of peers, who are expected to read written discussion posts and/or shared resources, respond to feedback on academic topics and contribute to various discussion threads. These topics act as a foundation and allow for a co-construction and deep understanding of the topics. In their study, de Oliveira and Olesova (2013) analyzed 154 online postings that 29 teachers and teacher candidates posted on a discussion forum. They found that students/pre-service teachers interactively shared, discussed, and modified their own understanding based on others' perspectives and experiences. These interactive learning processes enhanced their level of conceptual understanding of the discussion topic: literacy development of English language learners. In addition to the benefit of knowledge co-construction, Goggins and Xing (2016) reported that learning performance increased not only with the number of posts, but also the frequency with which learners read their peers' postings and the time dedicated to this.

AOD is also associated with the development of higher order thinking. Ennis (1991) defines critical thinking as "reasonable, reflective thinking that is focused on deciding what to believe or do" (p. 6). Newer discussion-based tools such as the forum are believed to be more conducive to discussion and nurturing higher-order thinking as they allow students more time to reflect on what has been written and do research before responding; hence their written responses are generally considered more thoughtful and are more likely to incorporate different perspectives and complete tasks fully (Abawajy, 2012; Klisç, McGill & Hobbs, 2012). In their survey study, Weil, McGuigan and Kern (2011) investigated a cohort of accounting students' (n = 35) perceptions of the benefits and limitations of AOD. The study revealed that students perceived a number of benefits associated with online discussions, including being exposed to other students' opinions and improving their ability to critically review information. Employing the California Critical Thinking Skills Test (CCTST), Jacob (2012) aimed to measure changes in 110 students' critical skills before and after participation in discussion forums. An analysis of postings in the discussion forums revealed a slow but steady development of critical thinking skills in students.

A further benefit of AOD is that it enables flexible and non-threatening learning and encourages learner participation and contribution. The asynchronous aspect of discussion forums means learners can send messages to teachers or peers and participate at their own

pace at a time suitable to them. This approach can give students extra time to respond to a message and formulate their answer; thus, it creates a more inclusive learning environment where quieter students are encouraged to contribute (Norton, 2014; Yaneske & Oates, 2011). Arnold (2007) believes because participants have more time to plan and monitor their own message as well as process input, this compensates for the cognitive interference of anxiety at the input, processing and output stages. This is particularly advantageous for language learners who often encounter issues at both a linguistic and conceptual level and who need time to contemplate and structure their responses in an L2. In his qualitative study, Norton (2014) provided empirical evidence that the asynchronous aspect of technologies had postive impacts on L2 learners' oral communicative experience. The learners reported having more time and space to process inputs before outputs, which increased their level of confidence in communicating in English.

In recent years, researchers have shown a growing interest in the social affordances of AOD, particularly in how people use language to construct group affiliations in an online environment. As online discussions involve interactions among peers and/or with teachers, students may have to think about the effects of their posts. Consequently, they may remove aggressive and offensive language. Drawing on Lave and Wenger's (1991) framework of community of practice, Cho (2016) investigated the interactional patterns among five bilingual pre-service teachers in AOD. She revealed that the identities of the pre-service teachers became emergent during the online discussion. The participants utilized a variety of strategies, particularly affective stance such as mutual support, agreement, acknowledgement, appreciation and consideration, to formulate their online community of practice. In his qualitative study, Jahnke (2011) interviewed seven secondary students about their experience of using online discussion. The most striking benefit identified by the students is related to the social and emotional aspect of online learning. They had a strong sense of the impact of their actions on the emotional health of others. In their study, Lu, Yang and Yu (2013) surveyed 174 students enrolled in Master of Information Management online classes. Exploratory and confirmatory factor analyses of data indicated that online learning facilitated social capital formation in the dimensions of community, trust, collective action and cooperation.

The literature review indicates that while considerable studies have been conducted to examine different aspects of AOD, these previous investigations are mostly undertaken in different disciplines of higher education, particularly distance education. Empirical studies focusing on the use of online discussion forums remains under-researched in the field of second language acquisition. Even though a number of language scholars acknowledge the potential of technologies for language learning (Davies, 2011; Reinders & Hubbard, 2013; Reinders & White, 2016), little is known about how language learners utilise them to facilitate their learning, in particular, how language learners interact and engage in their learning in the AOD environment. Drawing on affordance theory, the current study aims to address the gap identified above, addressing the research question: What affordances does an asynchronous discussion board offer to second language learners?

Method

Context and Participants

The course that forms the basis for this research was part of a joint business degree articulation between a New Zealand and a Chinese tertiary institution. As part of the agreement, the New Zealand institution delivered a series of credit-bearing courses on site at the host (Chinese) institution. The course itself was a level 5 (a New Zealand qualification) academic skills course taught to the students in their second year of a degree course and this research focused on the second iteration of this course.

The course was taught primarily in face-to-face mode complemented by a significant online component which was divided into two parts. Part A involved a series of quizzes that covered course content, academic skills and vocabulary. Part B was a group forum, which formed the basis of this research. The discussions occurred in small groups (four to five students) where learners were required to create and share content in groups using the forum function on Moodle, the Learning Management System (LMS) used for this course. Learners were asked to post at least 3 contributions of 80 words each (a minimum of 240 words) demonstrating their understanding of the task topic. Students were also required to pose three questions to team members and share two resources. The forum was learner-led facilitation where a teacher-selected moderator (the first student alphabetically in the group) led the discussions while the instructor remained as an observer (i.e. teachers were not directly involved in the discussion). The forum discussion was worth 7% of the overall course assessment where students would be marked on the quality and quantity of their contributions. In addition, the same topic for the forum discussions was also used for a subsequent collaborative oral presentation in the same groups which constituted 15% of their overall course assessments, and it was hoped that the relevance between these two tasks would motivate participation (Dennen, 2005).

The primary pedagogical aim of this task was to increase levels of communication and interaction, and to give learners the time to reflect and produce higher-quality work, leading to the creation of the content for an assessed oral group presentation. Another pedagogical goal was to create a collaborative learning environment where learners were expected to make a collective inquiry into a specific topic and come to a deeper understanding through mutual knowledge construction (Lave & Wenger, 1991).

The participants for this study were recruited from the cohort of students who were admitted into the course at the university in China. In order to avoid conflicts of interest, students were not contacted until six months after they had completed the course and their grades had been approved. Due to the time and scope constraints of the study, purposive sampling (Patton, 1990) was used to select potential participants. It is a technique widely used in qualitative research for the identification and selection of information-rich cases. Having received full information about the study, twenty students gave us permission to access their archived discussion forum threads. They were reassured that their identity would remain anonymous and confidential in this report.

Data Collection Instrument and Procedures

The primary objective of this study was to investigate the affordances of online discussion forums for language learners. To achieve this, this investigation utilized asynchronous, threaded messages posted by participating students on the online discussion forum over five weeks, a total of 40 contact hours. Having sought permission from the participants, we accessed their postings on the course Moodle site as messages posted to the discussion board were automatically archived and saved as a chronological text file. As the data in this study were collected retrospectively after the participants had completed the course, they represented the natural and unbiased communication occurring in the forum discussions. The qualitative analysis was based on 178 posts (approx. 19,642 words) written by the 20 participants as a result of the interactions generated by the task.

Data Analysis

Thematic analysis using coding scheme (Braun & Clarke, 2006) was employed to identify the affordances of AOD. This involved four phases:

Phase 1: previewing. In this phase, we first read/reviewed the online postings independently while jotting down notes in the margins.

Phase 2: opening code. We started open coding the set of data for the first participant. During the line-by-line scrutiny of the data, codes were affixed to the units of analysis. Because we were primarily interested in the affordances of online discussion forums, we isolated portions of postings relating to our inquiry. This could be single words, short phrases, complete sentences, utterances or extended discourse. Each unit was identified by the participant and provisional categories.

Phase 3: establishing themes. This phase focused on data reduction where similar themes were grouped into tentative categories. Propositional statements were made for each of these categories. For example, we subsumed the postings in relation to agreeing and disagreeing, critical analysis and evaluation of the business situation in China, and proposed solutions under one category, and the proposition we created was 'critical thinking'.

Phase 4: consolidating themes. In this phase, all the categories were once again revisited and tested against the set of data for the subsequent participants, to see if the tentative categories existed and continued to hold. If new tentative categories were identified we would re-examine the previous case and add the new provisional categories to the subsequent data analysis.

The data analysis was a recursive process where data were read repeatedly; new codes were added until saturation was reached (i.e., no new themes were found, and salient themes, categories or recurring patterns began to emerge). Having established the themes, we then created data files in which postings were copied and pasted into relevant cells regarding each theme and subtheme. In order to capture both patterns and examples, this report will balance

the summary and quotation (Morgan, 1988) and the quotes will be taken directly from the data without the researchers' attention to grammatical and linguistic errors.

To reduce the risk of bias, the two researchers coded the data independently. After the initial coding, we met to identify areas of overlap and disagreement. Any issues relating to coding, category and theme establishment were discussed and resolved via regular face-face discussions during data analysis until an agreement had been reached (Riffe, Lacy, & Fico, 1998, as cited in Loncar et al., 2014).

Results and Discussion

Four themes emerged from the data gathered. Table 1 summarizes each theme with its operational definition and sub themes.

Table 1. *Affordances of the Asynchronous Online Discussion Forum*

Theme	Operational definition	Subtheme
Co-constructive collaborative e-learning environment	Dealing with a learning context where students share resources, build and reshape knowledge through interaction	• share resources and understanding of the task topic • seek help and learn from peers • ask questions to clarify • elicit questions • support claims & opinions with evidence and examples
Group affiliation	Referring to a sense of unity and belonging within a group	• greet team members by their names • use positive, humble and encouraging language • praise group members and/or their contributions & refer to group members in a positive way • apologize • use emoticons
Critical thinking	Referring to "reasonable, reflective thinking that is focused on deciding what to believe or do" (Ennis, 1991, p. 6)	• agree and disagree • critical evaluation/reflection of the situation in China • suggest solutions to CSR-related issues • analyse critically the cultural appropriateness of CSR for the Chinese context
Learner autonomy	Referring to a student's ability to take charge of their own learning	• take different roles as a leader, facilitator and teacher • organize the forum discussion • introduce new or different topics • organize PPT presentation • encourage group members • go beyond the forum requirements in terms of topics and contributions to the discussion

Co-constructive, Collaborative Learning Environment

An analysis of contributions that participating students posted on the discussion forum indicated that the predominant interactions were related to the discussion topic, corporate social responsibility (CSR). Table 2 gives a breakdown of posted messages in accordance with their functions.

Table 2. *Messages Relating to Knowledge Construction*

Category	Quantity
Resources and links	41
Evidence and examples	74
Replies	96
Questions	76
	287

As is shown in Table 2, 41 posts were related to links or journal articles or book chapters that participants posted on the discussion forum to share with team members and/or support the claims of their posts; 74 posts gave good and bad examples of CSR practices in the corporate world; 96 posts were replies to questions raised by their team members and 76 posts functioned as questions whereby learners (1) elicited opinions from team members; (2) gave turns to other students by opening the floor for discussion; (3) sought help from team members to advance their understanding of the task topic. During this co-constructive inquiry, learners' understanding seemed to be deepened. The following excerpts of interactions between participants 8 and 10 illustrated this process:

> *I have a probelm need your help. Recently I know the Starbucks purchases coffee beans from famers with a higher price in order to protect famer's profits. The Starbucks's action is the performance of CSR. But in another hand, the Starbucks's behaviour of wasting water also catch the public's attention like the teachers said. So how can we juge a corporation whether a responsible corporation or not if it have both good actions and bad actions? Hope your responses. Thanks! (Participant 8)*

Participant 10 replied to this posting, alluding to the fact that ethical practice in business was a complex issue and could have a human cost:

> *This situation as you said could not be judged. No one can be a perfect person, so corporations are. Even though a corporation do something doesn`t conform to CSR, it does not mean it is not a responsible corporation… (Participant 10)*

In a subsequent post, participant 10 asked his teammates for solutions to the conflicting practices in businesses:

> *Just now i give some views to Ethan. I am inspaired and i have some questions. many enterprises have been taking measures to make environment better and make labor*

live better and so on. But even they do more,some phenomenons, such as making pollution, laying out staff, can not be avoided at present. So what measures we could take to reduce the bad effects happen? And what resources or organizations we could ask for to help do CSR? (Participant 10)

Participant 8, while not entirely resolving the dilemma, stressed the need for positive action from all parties to protect the environment.

Both government and non-government organizations have responsibility to improve our environment. And I think the young people should take more activities because they have more energy and time than others. So schools should encourage their students to improve our environment. (Participant 8)

Social constructivism emphasizes the need for social interaction and cooperation in order to enhance learning. Vygotsky (1978) posited that conceptual learning is a collaborative effort requiring supportive dialogue where an individual could benefit from assistance, including exemplary discourse or scaffolding, from "more capable peers" (Vygotsky, 1978, p. 86). It is evident that learners in this study used the online forum environment to actively engage in learning collaboratively. They made a collective inquiry into the task topic by interactive questioning and dialoguing and engaging in mutual knowledge construction (Lave & Wenger, 1991). Through this collaborative learning process, they came to a deeper understanding of the subject content and developed a shared repertoire of resources over time. From the learners' perspective, they were very appreciative of the collaborative learning environment and of what they learned from their peers:

As far as I am concerned, I learn a lot from all students here. Firstly, I have learned to communicate with you guys by an efficient way – surf the Internet, discuss questions and find books to supplement my assigned texts. Secondly, I have known a lot of information about corporation society responsibility such as its definition and advantages. I have acquired much knowledge and now I can identify the good or bad examples of CSR easily. To sum up, the benefit of learning and discussing CSR in a group effort is obvious. (Participant 18)

The finding is in line with previous studies (Klisc et al., 2012; Lai, 2015; de Oliveira & Olesova, 2011), providing further evidence that asynchronous online discussions afford a learning environment which promotes collaborative learning and facilitates knowledge acquisition through supportive peer dialoguing and knowledge co-construction.

Group Affiliation

Another theme surfacing from the data was a sense of group affiliation or belonging to a community of learning (Lave & Wenger, 1991). Posts were loaded with positive, emotionally-grounded messages. Table 3 summarizes postings that were employed to build their group cohesion.

Table 3. *Messages Relating to Group Affiliation*

Category	Quantity
Express happiness of belonging to the team	89
Use emoticons	65
Use positive, humble language	42
Praise group members and/or refer to group members in a positive way	29
Express gratitude for help received	20
Apologize for late responses, bad start, repeated postings	5
	208

It can be seen from Table 3 that the predominant posts in this category are related to their happiness to be part of the team: "*I am really glad to be one of your partners to study with you this term*" (*Participant 11*). The typical lexis the participants used in their opening remarks of the online discussion were "happy", "glad", "honoured". Their use of emoticons to express emotions and moods was also prevalent in the posted messages. They praised and/or referred to their team members in a positive manner when a team member shared sources with them, "*I learn a lot from the example shared by Mei. It is really a good example*" (*participant 19*) or when a team member posted a thought-provoking question: "*I think Mei's question is very meaningful*" (*participant 16*). Some participants apologized when they did not respond in time, feeling that they were letting the team down and not fulfilling their obligations. However, they showed willingness to contribute more and compensate for their absence from the forum. Participant 4 (a lead student), for example, had been absent from the forum for two days. He apologised, summarised the key points of the discussion so far and steered the discussion in another direction, that of CSR and the external stakeholder:

> *... I am so sorry about the abcense of me at yesterday. But I had already read your words, I just can not to reply yesterday. As at today, we have said a lot of information about CSR. Let me to make a summarize. We talked lots of internal stakeholders (e.g. employees and their family members , shareholders and enterprise). And we also list many companies or organizations like Google, Nike , Lock&Lock and P&G to approve the benefits of CSR. We also said some bad of influence of CSR. In a word I think we should talk something about the external stakeholders of CSR just like we have already said the environment. Right? I am searching some information about the external stakeholders, did you have some idea about the aspects of the external stakeholders? (Participant 4)*

As the discussion progressed, a community of learning seemed to establish itself among the team members where they felt valued, supported and wanted to achieve well as a team: "*Our team slogan is Making amazing miracles forever*" (participant 14). "*I wish all of us can get good grades! Continue refueling!*" (participant 11). Within the learning community, they sought help from team members when they identified gaps in their own learning and clarified

when they felt confused with the discussion, knowing that other team members would give them full support and not ridicule them:

> *...i feel so sorry for so late to join you.To be honest，my understanding of the CSR is limited to the teacher speak and I was the first time to participate in this kind of discussion.The question I wanted to ask is about the bad examples of CSR. Things have two sides. There are some company that are not doing good in social responsibility. Can you give me an example of their bad performance of the company in social responsibility? (participant 13)*

In recent years, scholars have shown a considerable interest in shared mood and emotion within groups in understanding the development of group dynamics (Spoor & Kelly, 2004). Clouder et al. (2006) suggested that positive emotions tended to encourage supportive behaviour whereas negative moods may generate hostility and threat among group members, which may compromise the potential benefits of collaborative learning. Although findings of previous studies (e.g. Çelik, 2013; Gilliland, Oyama & Stacey, 2018; Kehrwald, 2008) in relation to group dynamics in the e-learning environment are inconclusive, the positive interplay between learning and group affiliation was evident in this study, which led to a community of learning (Wenger, 1998) allowing for the development of both affective and academic resources without teacher intervention. These positive emotions appeared to promote cooperation and encourage learners to be mutually engaged in the joint project. This finding highlights the importance of establishing a learning community where learners are socially and emotionally committed prior to asking students to engage in cognitive tasks.

Critical Thinking

Posted messages revealed a number of incidents where learners were engaged in critical thinking (see Table 4).

Table 4. *Posts Relating to Critical Thinking*

Category	Quantity
Critical evaluation/reflection of the situation in China	37
Suggest solutions to CSR-related issues	97
Critical analysis of the cultural appropriateness of CSR for the Chinese context	3
Agree and disagree	11
Total	148

As is shown in Table 4, participants posted 37 postings where they critically reflected on corporate practices in China. In one instance where a team member had previously observed

that the level of CSR was low in China, participant 10 responded by outlining some of the factors that needed to be considered when judging China's CSR record:

> *For this question, I think China is a huge country. Not only the land is, but the number of people is also huge. And our country is a developing country, so many chinese enterprises or factories have been causing so much pollution by producting more production or doing more works so that they can do more transctions to get more money. For making money, they are selfish to care about their benefit. (participant 10)*

To solve problems concerning China's CSR performance, participant 6 suggested:

> *First of all, the government should deliver more policies about CSR because the attitude of government is one of the main drivers of the Chinese CSR growth as many companies pay more attention about government's policies in China. (participant 6)*

Having enhanced their understanding of the concept of CSR through mutual knowledge construction, a learner questioned critically if the concept of CSR was culturally appropriate for the Chinese context:

> *In my view, one of the restraining factors to push corporate social responsibility widely in China is the self factors of the company. For example, the social responsibility of the owner and the management is not enough. And some company may have conflicts between enterprises and employees in a company. Because some companies just focus on the profit but ingore the huge workload the workers need to pay out. And corporate social responsibility needs strict supervision. In other words, the economic environment is not very suitable for the development of CSR. Such as the market, the public voice and so on. The corporate responsibility is raised by America so there are cultural difference between different countries. (participant 10)*

In addition to critical reflection and evaluation, data also revealed that participants were actively involved in agreeing or disagreeing on posted messages based on their own understanding. For instance, participant 14 posted a question concerning the impact CSR could have on a company's profit. Participant 12 then posted a strong rebuttal of this premise:

> *I don't agree this opinion, in contrast, the CSR will increase the company's profit. The corporate social responsibility will heighten the company's reputation, at the same time, I believe that it will bring more profit to the company. (Participant 12)*

Clearly, posts from participating students in this study demonstrated that they were able to challenge personal perspectives and apply co-constructed knowledge to analyze and critically evaluate their own context. Contrary to Yang's (2008) study suggesting that without an instructor-imposed structure to a discussion, students failed to ask deeper questions and the discussion and critical thinking suffered, this study provided evidence that higher-order thinking occurs in peer-moderated discussions when they are well moderated and designed.

Learner Autonomy

As indicated in the preceding section, the design of AOD in this course was student facilitated. In this task, randomly selected leaders were in full charge of the discussion while the role of instructors was to monitor in the background. A closer examination of the online postings revealed that the student facilitators adopted a number of roles during the discussion, ranging from director to facilitator and organiser. They took full charge of the directions of the online discussions at each stage of the discussion. Some of them started the forum discussion by welcoming team members and inviting them to contribute:

> *I'm really honored to be one of your team member and I 'm looking forward to your active participation, which will definitely boost our work efficiency and morale … Then, we will communicate with each other online to share new ideas, leading to create a fantastic group presentation. (Participant 15)*

During the discussion, they elicited questions from team members, made comments or gave opinions, showed appreciation and encouraged people to contribute. They also introduced new topics when the discussion of previous topics was completed or activity within the group was flagging. At the final stage of the discussion, they made arrangements for their final oral presentation and organized time for team practice:

> *Yesterday we haven't got the chance to practice our PPT in class due to limited time. However, we still need to spare some time practicing it and modifying our PPT. Could you please send me your reference links as soon as possible? Could you send your contents to Jiang (pseudonym) at the same time as she will reference them to introduce us. I'm looking forward to your fluent speech on Next Tuesday, but we all need to try hard everyday. Do you agree with me? Then, have a good holiday! (participant 15)*

Apart from the active responsibilities that student facilitators voluntarily took on, other team members also demonstrated their ability to take charge of their own learning. A noticeable feature of students' postings was the quantity of posts that the overwhelming majority of students contributed to the discussion forums. As aforementioned, the task requirements for the online discussion were at least 3 posts of 80 words each (a minimum of 240 words in total) demonstrating their understanding of the content. Figures 1 and 2 compare the number of words and posts required with the actual words and posts from each participating student respectively.
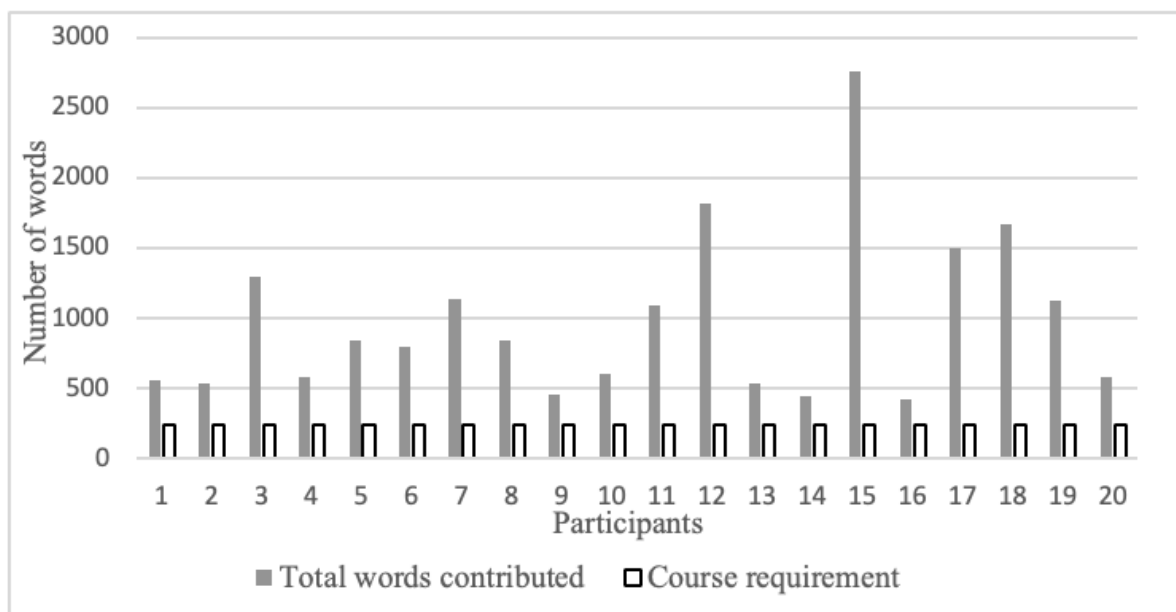
Figure 1. *A comparison of word contributions between each participant and the course requirement*
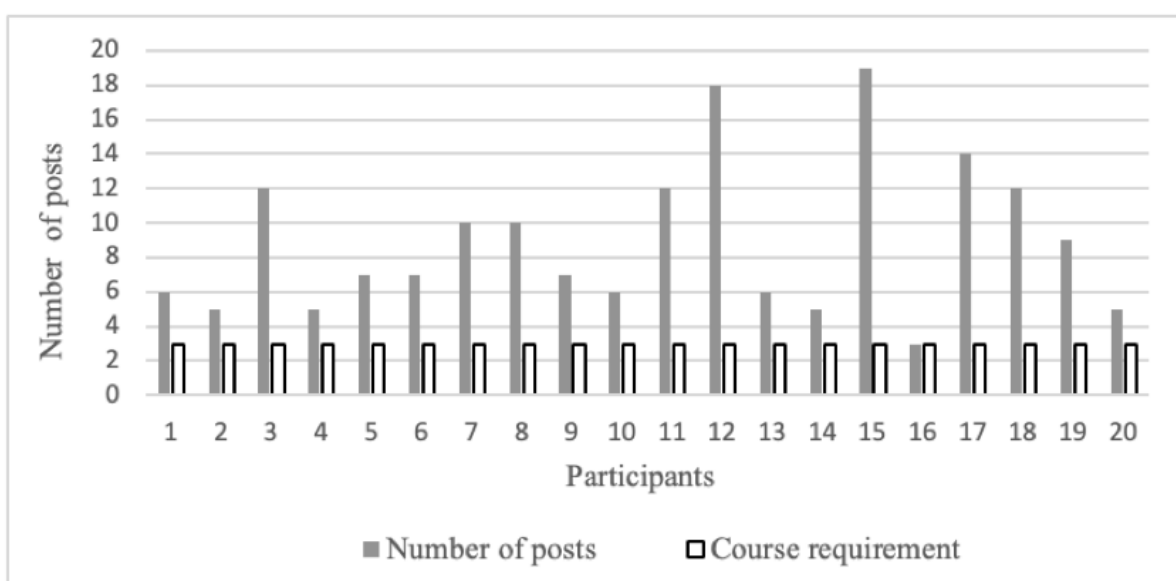

Figure 2. *A comparison of the number of posts between each participant and the course requirement*

As is illustrated in Figures 1 and 2, whilst the lowest number of words and postings was from participant 16 with a total of 425 words and 3 postings, the highest number of word contributions and posts was from participant 15 with a total of 2,756 words and 19 postings. The word counts indicate an average of 982 words and 8.9 postings from the participating

students. Evidence shows that all the participants exceeded the expectations required of the course. They took an active role in the collective inquiry. Rather than being a passive recipient of course contents from teachers, they took full responsibility for their own learning and were willing to exceed the course requirements and their teachers' expectations. This finding was at odds with some of the previous studies reporting that students tended to post very few messages in online discussions. Küçük (2010), for instance, lamented that online groups consisted of close to 90% of lurkers. The high motivation revealed in this study may be attributed to several factors, such as their high level of intrinsic motivation, the fact it was assessed or its peer-moderation design. Due to the scope of the research design, the current study is unable to identify the specific factor(s) that promoted such high levels of student output and future investigations on this are warranted.

Conclusions, Implications and Limitations

The major objective of this study was to investigate how asynchronous online discussion forums afford active learners in their language learning. By analysing the messages that the participants posted on the discussion forum, the study revealed that the online discussion forum has many properties that support activities seen as desirable for learning. This online learning environment afforded learners active participation in the discussion of pertinent social, educational and cultural issues. By writing extensively and critically while expressing their points of view and sharing academic resources, their knowledge of the topic under discussion was co-constructed and conceptual understanding was advanced. This interactive process of collective inquiry also helped foster learner autonomy and a sense of community.

While this study provided evidence that AOD enables access to new modes of learning and communication, a proper and carefully considered design is the key to realizing its potential affordances. It is critical to consider the affordances and constraints offered by new media when designing an online course. Teachers and/ or designers need to ensure that the pedagogy and activities embedded in the course reflect and maintain the best practices in learning and teaching (Sokolik, 2016).

Whilst the data for this study were gathered naturally without any interferences and biases from researchers, the sample size was small, which makes the wider application of the findings difficult. Future studies examining a larger sample size accompanied by an appropriate triangulation of data are warranted. This study suggests that students exercised more autonomy when the instructor was not moderating the discussion and this task design seemed to stimulate mutual interchange and in-depth discussions. Future studies could investigate this further by comparing the effects of student and teacher moderated task designs on different aspects of learning, e.g., quality and nature of postings, higher order thinking, participation etc. Furthermore, as both contributions of online discussion forums and subsequent oral presentation were assessed, it is not clear if the high motivation and engagement of the learners in this study were driven by the extrinsic assessed nature of this task. Further studies are therefore needed to offer insights into factors contributing to students' motivation and participation in AOD and into the relationship between the number of discussion board postings and L2 development.

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About the Authors

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