Interactive Learning Between Chinese Students Learning English and English Students Leaning Chinese on the Platform of Wiki

Dongshuo Wang, University of Manchester, UK

Bin Zou, Xi'an Jiaotong-Liverpool University, China

Minjie Xing, University of Manchester, UK

ABSTRACT

This research investigates the interaction between English students learning Chinese in the UK and Chinese students learning English in China via a wiki platform. Activity theory and legitimate peripheral participation theory were employed as a theoretical framework; wiki was embedded as an interactive learning tool. The findings revealed that Chinese native speakers assisted English students learning Chinese as foreign language (CFL) by means of reorganizing word orders and restructuring sentence patterns. The usages of clarification and elaboration were more frequent than the usages of added and deleted information. Both CFL and English as foreign language (EFL) students interacted with each other in attending to language forms through the essay correction and revision process, and the interaction consequently enhanced their target language learning. The study suggests that wiki provides a dynamic platform, which encourages further integration into the syllabus to support foreign language learning.

Keywords: Activity Theory, Collaborative Learning, Language Learning, Legitimate Peripheral Participation Theory, Wiki

INTRODUCTION

The present situation of foreign language learning still focuses on classroom instructions: language tutors introduce vocabulary, explain grammar rules and students practise pattern drills accordingly; whereas out-of-class, learners lack the opportunity to get involved in activities with other learners of the same target language, and have little chance to be directly involved in productive activities with native speakers (NS). Even with those who have

physical contact with NSs, psychological and or social factors prevent them from taking part in the activities: some of the learners are too shy to approach NSs, and some others are not sure if the NSs are willing to use the language with them or not. There are some "English corners" or "language communities" for foreign students to practise English (Gao, 2009; Wang, 2010), but activities like this for English speakers who practise Chinese are few and far between; learners also lack the opportunity for autonomous learning, as the participation in activities is either peripheral or arranged by language tutors, not real use in communication. Language learners are very often asked to practice in artificially created situations where the participation is hardly real, or they are left in a situation where the prescribed syllabus, learning materials and learning goals are set by authorities rather than by the learners themselves. The way to integrate linguistic knowledge learning in class and language practice after class remains as a question for educators and language practitioners.

LITERATURE REVIEW

Activity Theory

Activity theory, originating from Soviet psychologists Leonntiev (1978) and Ratner (2006), believes that psychological phenomena are formed as people engage in socially organized activities (Meyers, 2007). Since activities are socially formed, they provide a social and cultural influence on cognition. Activity theory emphasizes social factors and the interaction between agents and environments.

Activity theory believes that actions are undertaken by agents who are motivated towards the solution to some problem. Agency comes from working with others in a community, but this collaboration is constrained by cultural factors such as conventions and rules, and by the way in which a society is stratified according to its own division of labour. In this division

of labour, mentors or experts and newcomers play different roles in achieving higher mental functions. The activities of newcomers with the assistance of mentors or experts move from lower mental functions to higher functions and these functions are made into routines and performed automatically (St. Clair, 2008).

The power of activity theory as an explanatory framework rests in the concept of contradictions (Engeström, 1999). Contradictions arise when new ways of thinking or doing come in conflict with traditional or currently accepted ways of thinking and doing. They may also occur within each of the elements, between elements, or among activities, and may result in a breakdown of the activity system itself. Very often, in the course of activities, breakdowns in activity will be repaired or negotiated, but not all contradictions are obvious to the agency engaged in a given activity (Blackler, 1995). Engeström (1999) claims that the practice, rather than seeing contradictions as adverse consequences, provides a potential driving force for innovation and improvement of practices.

Agency participation in the learning does not only mean being engaged in activities, it also requires that the activity to be productive, i.e., leading to certain improvements in the practice. In language classrooms, learners are engaged in the learning activities in the form of mechanical drill-and-practice and role-playing scenarios. With these activities, what foreign language learners encounter is often abstracted uses of language instead of authentic communication. The learning or knowledge gained through these activities is that of learning a foreign language, not of using the language. The result of such learning may help students to use the language in classroom activities. However, using the language within a classroom differs in many ways from real life communication. Another kind of activity is out-of-class, where learners are involved in the learning activities in the form of real communication. With these activities, what foreign language learners need to do is the functional tasks to be completed. The learning or knowledge that is gained through these activities is that of using the language.

The result of such learning is using the foreign language for real communication purposes.

In addition, experience contributes to memory. The experience of socially-organized activities of using the language reinforces the language rules learnt in class and thus results in more solid cognition. The social factors and cultural influence in the activities pave the way for real communication in the target culture.

Legitimate Peripheral Participation

Similar to agency learning through activities, Lave and Wenger (1991) propose that learning takes place in a process called legitimate peripheral participation. "Learners inevitably participate in communities and the mastery of knowledge and skill requires newcomers to move toward full participation in the socio-cultural practices of a community" (p. 29). "Rather than learning by replicating the performances of others or by acquiring knowledge transmitted in instruction, learning occurs through centripetal participation in the learning curriculum of the ambient community" (p. 100). Eventually, full members in this community use the target language to communicate with NSs. Learning the target language is thus a process in which learners develop skills and knowledge necessary for becoming a full member through participating in the community of practice (COP) (Homes & Meyerhoff, 1999).

A COP is a way of achieving collective applied learning with the expectation that over time expertise in a given subject area is developed and solutions to common issues and shared problems are found, posted and discussed. A COP might use a variety of collaborative tools, but its goal is to expand knowledge and improve practice in a specific area. In a COP, a teacher can also monitor student activities via computers at remote locations (Benson, 2001; Healey, 2007; Schwienhorst, 2003).

Legitimate peripheral participation theory structures participation in two stages: at the initial stage when learners' knowledge and skills are limited, their participation should be on the "periphery" of the community with the assistance of experts and more experienced mentors. The experts' advice will help to pull up the learners' level through constant association and practice. Language learning will gradually shift from comprehensive input to fully emerged in it. Even though the participation is peripheral initially "only to a limited degree and with limited responsibility for the ultimate product as a whole" (Hanks 1991, p. 14), yet learners have the opportunity to experiment, and the engagement in meaningful communicative activities in the target language facilitates language learning. As learners' participating capability increases, the participation moves from the peripheral to the centre. Responsibility for the final product increases as one gains fuller membership. "The place of knowledge is within a COP and questions of learning must be addressed within the developmental cycles of that community" (Lave & Wenger, 1991, p. 100).

The core of legitimate peripheral participation theory is the social nature of learning. Learning does not happen in vacuum but takes place through individual participation in social interactions. As pointed out by Astin (1993), "An individual's peer network is the single most potent source of influence on student growth and development" (p. 398). The premise was built on research demonstrating that the frequency of learning-related peer-peer interactions is positively correlated with student academic performance. A student's propensity to participate within small study groups was an accurate predictor of academic success (Light, 2001). As knowledge is not only transmitted to the learners in class but also constructed by the learners out of class. Directly participating in productive activities in a COP out of class can be an important part of language learning.

Exolingual interactions via computer and internet environments are also applied to language learning (Levy, 2007). Ware's (2004) research demonstrated that students participated in web-based writing in ways that reflected

their comfort with technology, past writing experience, and cooperation with peers. Collaboration contributes to increased complexity in writing (Sotillo, 2000) and higher quality of writing. Arnold and Ducate's (2006) research illustrated that collaborative learning benefit from the context, tools and participants of a learning environment. Swain (1995) suggested that learners engaged in meaning construction naturally reflect upon their language production.

Negretti (1999) reported that the participants often used explicit and economical strategies to manage procedures and tasks, maintain social cohesion, and show awareness of chat features. NS and NNS created a sense of inter-subjective communication by means of accepting, rejecting, and explaining ideas. While meaning negotiation is the essence of language interaction, language learners use other interactional strategies such as technical actions, social formulations, error corrections, and discourse management more frequently than they do in face-to-face discussions.

The importance of student social or peer networks to learning is gaining more recognition within the education literature (Cho, Christian, & Charney, 2006; Dawson, 2010). The different patterns of networking that are demonstrated by high-performing students as distinct from low performers, teachers making use of these patterns to monitor network composition, and the types of networks students foster in an online education setting, all have an impact on learning performance.

In language learning, using the language is the key to legitimate participation in communities at both peripheral and full participation stages. Since the present situation in foreign language learning can be understood as the lack of legitimate peripheral participation of practice, engaging language learners in the COP for authentic communication in the target language becomes crucial. To set up a language learning community for language learners to interact with other learners of the same target language as well as NSs, a platform for communicative activities can serve this purpose. Within this framework, many fundamental issues in language learning such as lack of NSs,

lack of opportunities and lack of practice are likely to be resolved.

Application of Technology to Language Learning

Digital technology has expanded the borders of the foreign language classroom and opened new avenues for language learners' legitimate peripheral participation (Black, 2009). It has opened up opportunities for the construction of new knowledge through e-enabled dialogue and debate. For digital technology to be used in language learning, two factors need to be taken into consideration: computer hardware and language teachers being able to use the digital technology for language learning.

Great investments have been put into digital technology recently. According to the China Daily (News Office, 2010), more than 384,000,000 Chinese people are using the internet: 346,000,000 are using broadband for the internet and 233,000,000 are using mobile technology for the internet. BBC News education correspondents also propose that digital technology should be university `priority' (Coughlan, 2010). "Creative digital technologies must be a national priority in UK universities" (Industry and University Report, 2010).

With regard to language teachers using digital technology in language learning, an on-line survey by Toner et al. (2008) shows that language teachers in higher education are technologically very literate and institutions are well provided with a range of technologies including multimedia language learning. It is encouraging to find that among the total of 147 responses received, 87 responses were given by teachers who represent 62 UK higher education establishments.

As for technology-supported language learning in communities, Fitze's (2006) experiment on written electronic discussion shows that advanced EFL 2 students utilized a wider variety of communicative strategies (e.g., clarification requests, dis/agreement statements, social formulations, topic managements) in online discussion. DiGiovanni and Nagaswami (2001) illustrated that the propor-

tion of agreement or disagreement with ideas, or with the organization of ideas, was high in synchronous online peer discussion. Jones et al. (2006) further investigated the area of online peer responses and discovered that the foreign language students in synchronous online sessions tend to centre round global concerns (e.g., content, organization, topic, and thesis) in relational communication in synchronous online sessions; whereas Jones et al.'s finding contradicts Liu and Sadler's (2003), in which computer-enhanced groups tended to focus on local revisions.

The current tendency of digital technology in language learning is shifting away from text-only computer-mediated communications to more open forums of participation, such as blogs and wikis (Zheng et al., 2009). That is, the study of informal (out-of-class) use of digital technologies is going beyond rehearsal activity to achieve message-orientated communication (Barr et al., 2005). The boom in high-tech encourages learners to turn to technology for supplementary learning opportunities, such as e-reading materials, e-interactive resources and e-support for their study. To make good use of the new technology to facilitate faster, better, or more satisfying learning, and to play to the strengths of technology-based learning, web 2.0 came into being.

Web 2.0 and Wiki Used for On-Line Collaboration in Language Learning

Web 2.0 is a second generation of web-based applications and services that make it easy to create, distribute and share content, often collaboratively, while helping users find and connect with like-minded people and form social networks based on common interests (Fitzgerald, 2011). It emphasizes active participation, connectivity, collaboration, and the sharing of knowledge and ideas among users. Users can not only create their own content but also mix, amend, and recombine content, and by doing so are relatively more `open to the world', and welcoming comments and

revisions (McLoughlin & Lee, 2007). Boyd (2007) claims that the social aspects of web 2.0 have great potential for enhancing education. Barlow (2008) argues that web 2.0 tools also offer an exciting opportunity to create a classroom without walls because they enable learning to take place wherever and whenever possible. With a wide choice of communication and collaboration tools for students to use such as social bookmarking systems, blogs, and wikis (Anderson, 2007; Hughes, 2009; Mason & Rennie, 2008; Redecker, 2009), web 2.0 provides a good environment for fostering students' learning skills. Oliver (2007) encouraged that technology integration courses need to be redesigned to leverage new web 2.0 tools.

Among various web 2.0 tools, wikis are popular tools in facilitating collaborative work. A wiki enables the users to collaboratively write, edit and also provides a history facility to keep track of the modifications made by different users, to enable changes to be reversed if necessary, allowing them to trace the content and timing of the revision. In an educational context, wikis can offer many benefits (Richardson, 2006; West & West, 2009) by allowing students to work together in a shared environment, with the progress of the work visible to all students, and to the teacher, at any time (Endean et al., 2008). This visibility and sense of creativity and progress can be highly motivating (Wheeler, Yeomans, & Wheeler, 2008). Students can provide feedback on each others' work, and help to improve it (Lundin, 2008). A wiki also allows for web documents to be structured and organised in different ways, and to be updated regularly, and provides a valuable way for groups of students, and their teachers, to collaboratively develop and maintain learning resources. A wiki offers a way for learning to become more student-centred and democratic. Learners can use a wiki to share and explore their ideas, without the need for a teacher or any individual student to take a leading role (Trentin, 2009).

A wiki offers powerful opportunities for online collaboration for both language professionals and learners via negotiation (Blake,

2000; Lee, 2002), and negotiation in the target language has been identified as significantly contributing to language learning through enhanced semantic understanding (Long, 1981; Long & Robinson, 1998). Students engaged in the participation encouraged extensive negotiation to task completion, and eventually students were able to use the wiki environment autonomously (Kessler, 2009).

By means of selected videotape transcripts of learner interactions involving the use of a wiki, Lund (2008) illustrated the activities where individuals relate to a greater collective that evolves over time and where language and material artifacts function as structural resources. This empirical study shows that learners work in and across activity types that create tensions between individual and collective, institutional and novel practices, and that the wiki holds the potential for collective knowledge advancement and language development.

Richardson (2006) believes that there are different educational possibilities of using wiki for learning, especially for language learning. To be more concrete, Godwin (2003) suggests that wiki sites can be created for specific projects with a set group of authorized users and provide an excellent collaborative environment, since changes made in the wiki indicate the user who has done it. In fact, a wiki-type site could be ideal for a COP, which may promote more social opportunities for autonomous language practice and interaction.

However, as Vratulis and Dobson (2008) discovered, students may not all be able to play an equal role in making contributions to the wiki. The wiki facility makes it possible to accidentally change others' comments or contributions. This can cause frustrations for some students, who may feel that their own work is no longer represented in the wiki. The students, who are already familiar with forums, value the wiki as a tool for collaboration, but may not be entirely comfortable with aspects of its use.

Having taken into account of both positive and negative sides of web 2.0, this study creates a COP via the platform of wiki that calls for social interaction between CFL students in the UK and EFL students in China. In the wiki spaces, both language learners and NSs can put in corrections in word choice, word order and sentence pattern etc. and make comments on the content of the essays. It is also a space for all students to monitor the practice of their own performances, and to take the advantages of the open space in facilitating students' contact with NSs and in individualising their language learning (Vanderplank, 2010). Two research questions are therefore formulated to drive this research:

1. Do language learners collaborate with each other in attending to language form in the wiki environment?
2. Does this interaction via the wiki contribute to their language proficiency?

THE STUDY

The research brings together activity theory, legitimate peripheral participation theory, digital technology web 2.0 and on-line cooperative learning pedagogy, focusing on COP to foster language development and language proficiency building to achieve better practice and better language learning outcomes.

The participants were English-speaking students (N=30) majoring in CFL doing a single honours or joint honours degree at the University of Manchester, UK. All of them were full-time students in their final year. Their age ranged from 20-26, with 14 male and 16 female students. The Chinese EFL students (N=34) were from the University of Xi'an Jiaotong-Liverpool, China. They were EFL learners acting as NS mentors in this language learning community. CFL students acted as language learners while EFL learners acted as NSs; the wiki served as the open platform to which students both in the UK and China can have access; teachers intervened and guided where appropriate to ensure that language learning is taking place in the right way.

The CFL students had 3 contact hours per week throughout the first semester of the 2010-2011. They completed weekly assignments on

Table 1. Coding categories and descriptions

Coding categories	Description of category
Added	Something new is added - a new word, phrase or a particle, etc.
Deleted	Something is deleted to avoid duplication, repetition or because it is unnecessary
Clarified	When the meaning is not clear, NS clarifies and makes changes accordingly
Elaborated	When information is not sufficient, NS elaborates by giving more explanation
Synthesised	When words are not in the correct order and this distorts the meaning, NS reorganizes the sentences to make the meaning clear

the topics of newspaper, journal/magazine, descriptive writing/narrative writing/illustrations, application/cover letter and comments on traditional vs. simplified characters. These assignments counted for 10% of the final grades, and the oral exam 30% was based on the presentations of these assignments and in total the performance in this project counted for 40% of their credit for the course.

As part of the course requirement, CFL students wrote their first draft essays, sent them to the wiki, discussed them with NSs from Xi'an Jiaotong-Liverpool University. When linguistic problems arose, the NSs had to intervene by providing assistance to draw the learners' attention to focus on the right linguistic form. The NS experts assisted language learners in error correction as well as in making comments on the contents. After correction, CFL students submitted the final version of essay individually for assessment. CFL students in the UK and EFL students in China were required to give encouragement to their peers and write constructive comments on their peers' work.

Meaning-related change (MRC) was employed as a measure for interaction. "MRC included any meaning-related change that a student made to the wiki" (Kessler & Bikowski, 2010, p. 45). MRC could consist of changing a letter, word, sentence, paragraph or the entire essay. As this study focuses on linguistic form , any changes to alter the original form are regarded as MRC and these changes are classified into five categories: new information, deleted information, clarification, elaboration of information, and synthesis of information.

The five main coding categories were adopted from Kessler and Bikowski's (2010) research methodology with a slight alteration: we deleted the `html' because none of our students added extra links, instead, we replaced it with `synthesis', because there were some cases where NSs synthesised whole sentences.

For CFL students, MRC was used to evaluate their language behaviour in terms of the use of language to independently contribute meaningful contents, the ability to use appropriate strategies for communicating as a collaborative member of the COP, and the willingness to demonstrate these abilities. For EFL students, MRC was used to analyze their capability to act as an expert, such as being able to detect linguistic flaws, find a better solution, persuade the language learner to accept the new idea and if not, search for alternatives from other resources. Table 1 describes the categories and descriptions for each classification and examples of each are given.

Examples of each category are:

Added

The particle "着 zhe" is added to "手里攥 shouli zhuan" (in the hands) because "着 zhe" indicates continuation of the state, meaning "still in the hands". Another example is to add "上 shang" after "会议 huiyi", indicating "during" (the meeting).

Deleted

In the phrase "在国外留学 zai guowai liuxue", the part "在国外 zai guowai" (in a foreign

country) is deleted because "留学 liuxue" (overseas study) already implies studying abroad and therefore "在国外 zai guowai" duplicats meaning; also in "置业投资房地产 zhiye touzi fangdichan", "置业 zhiye" and "投资房地产 touzi fangdichan" mean almost the same, while "投资房地产 touzi fangdichan" (investment in estate) is more concrete, and therefore "置业 zhiye" (investment in enterprises) is deleted; in the phrase "拿第一或第二 na diyi huo di'er" (the first or the second) "名列前茅 minglie qianmao" (on top of the list), "名列前茅 minglie qianmao" already indicates the first or second place in a competition and sounds more standard aligning with the four-character idiom, thus "拿第一或第二 na diyi huo di'er" (take the first or second place) is deleted.

Clarified

In the sentence "伦敦的家庭价格还是膨胀 Lundun de jiating jiage haishi pengzhang", "家 jia" means both home and house. When "家 jia" is followed by "prices", it means "house" rather than "home" and therefore NS made the clarification and helped the student choose the meaning of house to fit in the context "伦敦的房价还是在增长 Lundun de fangjia haishi zai zengzhang" (House prices in London keep going up). Another example is "零吃 lingchi" (little eat) and "零食 lingshi" (little snack). Although the meanings of the two words are close, one is a verb and the other is a noun. The NS clarified that in the context of the sentence, a noun "零食 lingshi" is needed rather than "零吃 lingchi".

Elaborated

One of the CFL students piled up the words "中国时代工作女性 Zhongguo shidai gongzuo nuxing" (China, era, work, female), and NSs could not understand what that meant. After a couple of turns of wiki negotiation, a NS elaborated that as "中国当代职业女性 Zhongguo dangdai zhiye nuxing" (China's contemporary female professionals) and the CFL student was pleased. Another CFL student used "危在旦夕 weizai danxi" to describe his worrying

mood. A NS explained in the wiki that "危在旦夕 weizai danxi" describes somebody who is "about to die" because of serious illness, "心忡忡? youxin chongchong" means "worry to death". After the elaboration, the CFL student chose "忧心忡忡? youxin chongchong" instead of "危在旦夕 weizai danxi".

Synthesised

In the phrase "二战在上海的犹太人 erzhan zai Shanghai de youtairen", (the Second World War in Shanghai Jews), although the basic idea is obvious, yet the word order is not correct which makes the meaning blurred. When the sentence is reorganized into "二战时期在上海生活的犹太人 erzhan shiqi zai Shanghai shenghuo de Youtairen", (in the period of World War II, or during the second world war, the Jews in Shanghai …), the meaning is made clear to the reader.

Apart from the MRC in the wiki, focus groups and individual interviews were carried out at the end of the semester to clarify some of the activities in the wiki. Placement test results at the beginning of the course and the achievement exam results at the end of the course were used for detecting correlations between wiki activities and learning outcomes.

RESULTS

All the 30 CFL students made five entries (except one student who made two entries) on the given topics and all the 34 EFL students relied in the wiki, making up a total of 4432 iterations. All the iterations that included at least one MRC were examined, resulting in the analysis of 592 MRC, and the rest of the iterations were correct sentences.

Table 2 describes the total number of MRC in each category that students made via wiki.

From Table 2, it can be seen that the least used category is "added". This may have resulted from the fact that the NSs were not sure of what the CFL students intended to express and therefore only corrected what was already written rather than added something new which

Table 2. The five language acts and the number of instances

Language act	Number of instances in the wiki
Added	48
Deleted	96
Clarified	105
Elaborated	167
Synthesised	176
Total	592

Table 3. Comparison between different levels of scores in the placement test before the course and achievement test after the course

Levels of scores	Placement results	Achievement results
G1 50-	6	3
G2 51-60	3	5
G3 61-70	7	10
G4 71+	14	12

might not be the CFL students' intention. The fact that "deleted" was used more often than "added" can be interpreted as: "deleted" was mainly to get rid of duplicate information and redundancy, as shown in the sample sentences. The number in the "clarified" category was higher than "added" and "deleted". This might be due to the fact that CFL students were still thinking in English and translated their ideas into Chinese and in the process of translating, the meanings appeared vague and unclear to NSs, which needed clarifying. Further, some ideas had to be reorganized and elaborated which caused the greater number of cases in "elaborated". Taking a sentence as a whole, the ideas needed to be synthesised in a way that fitted Chinese language norms, and that might be the reason that the number in the "synthesised" category is the highest. Also when CFL learners could not express themselves clearly in the target language or in the right order, NSs encouraged them to reorganize their points and offered them alternatives for better expressions. CFL students learnt from these syntheses.

After meaning negotiation, the mutual understanding led to more sophisticated writing outcomes.

Before the course started, students had just completed their year-abroad study as part of their degree. Some students (single-honours degree) stayed in China for a whole year; some students (joint-honours degree) stayed in China for half a year; and some students (previous-year) stayed in China for two years. During their year-abroad study, those who passed the national HSK test (汉语水平考试Hanyu Shuiping Kaoshi, Chinese Proficiency Test) received the scores of 70 or above, those who stayed in China for two years without taking the HSK test got the scores of 61-70, and the rest of the students obtained various scores in the placement test in the University of Manchester. Tables 3 and 4 present the details of the results of the placement test at the beginning of the course and the end-term achievement results at the end of the course.

Tables 3 and 4 illustrate that three students got scores of 50 or below in the placement test

Table 4. Comparison between the differences of placement test scores before the course and the achievement results after the course

Before\After	50-	51-60	61-70	70+
50-	3	3		
51-60		2	1	
61-70			4	3
71+			5	9

and remained 50 or below at the end of the course; while another three students gained 50 or below in the placement test but got 51-60 at the end of the course. Two students obtained 51-60 in the placement test and remained at this level in the achievement result, while another student got 51-60 initially but moved to a higher level of 61-70 in the achievement test. Four students got 61-70 in the placement test and remained at the same level; while another three students got 61-70 initially but moved to a higher level of 70 or above in the achievement test. Five students got 71 or above in the placement test but dropped to 61-70 in the achievement test, while the other nine students got 71+ initially and remained 71 or above at the end of the course.

From the follow-up interviews, it is made clear that two low-proficiency students did not improve very much because of personal and family reasons. The other low-proficiency student gained 10 more marks, but still remained in the 50 or below group.

The five high-proficiency students who dropped from 71 or above to below 70 admitted that they thought their Chinese was sufficient and thus they put more effort into their dissertations than into their Chinese language. They also attributed the drop in Chinese proficiency to the English-speaking environment, where they kept talking in English after coming back from China to the UK, and believed that their Chinese would be OK when back in China.

Except for the two extremes (the lowest and the highest), the majority of the students improved to various degrees. To analyze whether the improvements correlate with their wiki interactions with NSs, we marked the three students who got 50 or below at the beginning and 51 or above at the end as G1 S1 (Group 1, student 1), S2, and S3. In the second group, one student was below 60 initially and above 61 in the end and we marked it as G2, S1. In the third group, three student's score was 70 or below initially but got 71 or above in the end and we marked this student as G3, S1, S2, and S3. In the fourth group, five students' scores were 71 or above but dropped to 70 or below and they were marked as G4 S1, S2, S3, S4, and S5.

Students in group 1 made great efforts to interact with NSs via wiki, with the minimum of 16 and maximum of 31 MRC (Table 5). The interviews afterwards revealed that it was hard for them to produce an essay on topics such as newspapers and journals. However, with an audience and language partner on the other end of the wiki in China, they could feel encouraged and they tried their best to produce more. They realized that the more they produced, the more feedback they would receive, and the more improvement they could make.

Similar to group 1 students, the student in group 2 also made tremendous efforts to interact with NSs via wiki, with 26 MRC (Table 6). The interviews afterwards showed that he enjoyed the interaction with the NSs because he knew that NSs on the other end in China were kindly offering help and in return he was correcting their English. He felt that they were mutually benefiting and this interaction strengthened his link with China for which he felt "nostalgic" after having stayed there for a substantial time during the year-abroad study.

Table 5. Correlation between the first group students' enhancement with MRC

	Added	Deleted	Clarified	Elaborated	Synthesized	Total MRC
G1 S1	1		8	12	10	31
G1 S2	1	1	3	10	1	16
G1 S3	1	5	7	3	1	17

Table 6. Correlation between the second group students' enhancement with MRC

	Added	Deleted	Clarified	Elaborated	Synthesized	Total MRC
G2 S1	2	3	3	3	15	26

Table 7. Correlation between the third group students' enhancement with MRC

	Added	Deleted	Clarified	Elaborated	Synthesized	Total MRC
G3 S1	2	1	6	11	2	22
G3 S2	4	8	1	3	6	22
G3 S3	3	5	4	9	3	24

The students group 3 worked very hard and made careful corrections after each MRC (Table 7). In the follow-up interviews, they reflected their progress and commented that every time they got feedback from NSs, they compared the corrected ones with their original essays and analyzed the errors. Once they understood where the problems were, they would not make similar mistakes again, and that was how their accuracy grew.

The commonality of all the five students whose scores dropped from 71 or above to 70 or below was fewer MRC compared with students in other groups (Table 8). As explained earlier, they did not put much effort into it and were not active in the wiki activities with NSs. The student who made the fewest MRC (N=5) only completed two tasks in the wiki during the semester while other students completed five tasks. Also because they were concentrating on the dissertations, they did not pay too much attention to language learning as a whole during the semester, and consequently the results were not surprising.

Apart from objective scores, students also commented in the focus group interviews that meaning negotiation, content discussion, and error correction were all very helpful. Social talk too formed part of the interaction. Initially, they were strangers and were afraid of making mistakes, but nearer to the end of the course, they became friends and they exchanged email addresses and intended to stay in touch even after the course.

DISCUSSION

Activity theory, legitimate peripheral participation, application of web 2.0, and on-line collaboration pedagogy were well integrated in this project. The 4432 iterations show that both CFL and EFL learners were engaged in revision-related discourses. The history function in the wiki reflected distinct and compelling evidence of their learning process and demonstrated what the language learners were able to learn from the wiki-based COP activities. The log of activities including page editing

Table 8. Correlation between the fourth group students' enhancement with MRC

	Added	Deleted	Clarified	Elaborated	Synthesized	Total MRC
G4 S1	2	5	4	9	3	23
G4 S2	1	7	5	4	1	18
G4 S3	0	1	2	3	3	9
G4 S4	1	2	1	1	1	6
G4 S5	0	2	1	1	1	5

and comment posting showed that the activities were intense and that some of the students laboured for a considerable period of time on the wiki tasks throughout the semester. Indeed, the frequency of interactions showed that the comments from NSs had a positive effect on the students' language practice. Furthermore, the findings from the wiki also permitted the teachers to examine the peer support for this kind of activity and the effectiveness of using the wiki in developing learners' capabilities.

Students' engagement and shared perspectives in the collaborative process of reaching inter-subjectivity had an impact on subsequent writing and revision, as suggested by de Guerrero and Villamil (2000) and van Lier (2000). This study also echoes Richardson's (2006) suggestion that the wiki offers possibilities for language learning. The wiki tasks in the study helped CFL students in the UK and EFL students in China to achieve the objectives of both modules, which correlated with their learning achievements. The tasks encouraged interaction between NSs and NNSs through which the proficiency of the target languages of both sides were enhanced in a virtual learning environment.

The follow-up interviews showed that students on both sides benefited from the online discussions, and felt an enhanced sense of community where they could reflect on others' contributions resulting in more considered responses. While NSs on the wiki pages offered both positive comments and critiques on content and linguistic forms, a noteworthy observation was that it is from the critiques that CFL learn-

ers learnt most. As for the side effects of wiki, some examples are cited herewith: the wiki online environment was complex and frustrating: the amount of time required for getting familiar with the wiki environment, uploading files and editing comments online was tremendous. Some students also reported that their files disappeared from the wiki (accidentally deleted by other students), and they had to go to the history section to get them back. Similar problems were also encountered by Vratulis and Dobson (2008). Some students said that all the voices could be heard simultaneously, it was hard to follow a clear line though. McConnell (2006) also reported problems for students when trying to follow complex threaded discussions, particularly when working in large forums with many participants.

Apart from the drawbacks which could be resolved by better organization and better arrangements, the data in this study positively answered the first research question that language learners did engage with each other in attending to language form in the wiki environment and the comparison between the placement and achievement test scores answered the second research question that the interaction between NSs and NNSs via wiki contributed to the language proficiency enhancement. The findings in this study are in line with the suggestions in the literature that feedback should be rapid and given at an appropriate time in order to make the learning process effective.

Even though the negotiation of meaning did not go smoothly at the beginning because the clarification was not clear enough, or

the examples given were not very convincing, nevertheless, more adoption of content suggested by NSs was taken into subsequent writing near the end of the wiki interactions. A further comparison of the discussion at the beginning and near the end also showed the differences in the quality of their interaction, with higher frequency interactions going deeper into content discussions. Students who were active in the wiki interactions, in their learning progress, in seeking advice from NS, in adding and deleting and synthesising information in the revision, were more successful. These processes seemed to be essential for learners who wish to practise the target language for real communication purposes.

CONCLUSION

This study has reported the interaction between CFL students in the UK and EFL students in China via wiki. Sufficient opportunities were offered in the wiki to examine each student's contribution in detail. The wiki platform has made language learning flexible, inclusive, collaborative, authentic, and relevant by extending their classroom boundaries to the real-life communication. On this platform, learning is no longer something that is external to the learner, nor is it solely a practice of gaining linguistic knowledge and understanding onto a learner. Instead, learning becomes understanding, thinking actively and using the language for real communication purposes.

With this newer and more flexible medium, students can improve both their language and communication skills. The study therefore suggests that a dynamic platform, in which activity theory and legitimate peripheral participation as well as collaborative language practice are inseparably interwoven and can therefore be integrated into the syllabus to support language learning. The pedagogical implications of the study are that teachers can help arrange interaction between language learners and NSs via new technologies, lead-ing to improved language learning and higher levels of language learning output.

REFERENCES

Anderson, P. (2007). *What is web 2.0? Ideas, technologies and implications for education.* Retrieved from http://www.jisc.ac.uk/media/documents/tech-watch/tsw0701b.pdf

Arnold, N., & Ducate, L. (2006). Future foreign language teachers' social and cognitive collaboration in an online environment. *Language Learning & Technology*, *10*(1), 42–66.

Astin, A. (1993). *What matters in college: Four critical years revisited.* San Francisco, CA: Jossey-Bass.

Barlow, T. (2008). Web 2.0: Creating a classroom without walls. *Teaching Science*, *54*(1), 46–48.

Barr, D., Leakey, J., & Ranchoux, A. (2005). TOLD like it is! An evaluation of an integrated oral development pilot project. *Language Learning & Technology*, *9*(3), 55–78.

Belz, J. A., & Thorne, S. L. (Eds.). (2006). *Internet-mediated intercultural foreign language education.* Boston, MA: Heinle & Heinle.

Benson, P. (2001). *Teaching and researching autonomy in language learning.* Harlow, UK: Pearson.

Black, C. (2009). Potential of text-based internet chats for improving oral fluency in a second language. *Modern Language Journal*, *93*(2), 227–240. doi:10.1111/j.1540-4781.2009.00858.x

Blackler, F. (1995). Knowledge, knowledge work and organizations: An overview and interpretation. *Organization Studies*, *16*(6), 1021–1046. doi:10.1177/017084069501600605

Blake, R. (2000). Computer-mediated communication. A window on L2 Spanish interlanguage. *Language Learning & Technology*, *4*(1), 120–136.

Boyd, D. (2007). The significant of social software. In Burge, T. N., & Schmidt, J. (Eds.), *Blog talks reloaded: Social software research & cases* (pp. 15–30). Norderstedt, Germany: Books on Demand.

Cho, K., Christian, S., & Charney, D. (2006). Commenting on writing: Typology and perceived helpfulness of comments from novice peer reviewers and subject matter experts. *Written Communication*, *23*(3), 260–294. doi:10.1177/0741088306289261

Coughlan, S. (2010). Creative digital technologies must be a national priority in UK universities. *Industry and University Report*.

Dawson, S. (2010). Seeing the learning community: An exploration of the development of a resource for monitoring online student networking. *British Journal of Educational Technology*, *41*(5), 736–752. doi:10.1111/j.1467-8535.2009.00970.x

De Guerrero, M. C. M., & Villamil, O. S. (2000). Activating the ZPD: Mutual scaffolding in L2 peer revision. *Modern Language Journal*, *84*, 51–68. doi:10.1111/0026-7902.00052

DiGiovanni, E., & Nagaswami, G. (2001). Online peer review: An alternative to face- to-face? *ELT Journal*, *55*, 263–272. doi:10.1093/elt/55.3.263

Endean, M., Weidmann, G., Armstrong, A., Moffatt, J., Nixon, A., & Reuben, R. (2008). Team project work for distance learners in engineering — Challenges and benefits. *English Education*, *3*(2), 11–20.

Engeström, Y. (1999). Activity theory and individual and social transformation. In Engeström, Y., Miettinen, Y., & Punamäki, R. (Eds.), *Perspectives on activity theory* (pp. 19–38). Cambridge, UK: Cambridge University Press.

Fitze, M. (2006). Discourse and participation in ESL face-to-face and written electronic conferences. *Language Learning & Technology*, *10*(1), 67–86.

Fitzgerald, S. (2011). *What is Web 2.0? Web 2.0 for teaching and learning.* Retrieved from http://challengerelearning.wikispaces.com/

Gao, X. (2009). The 'English corner' as an out-of-class learning activity. *ELT Journal*, *63*(1), 60–67. doi:10.1093/elt/ccn013

Godwin-Jones, R. (2003). Emerging technologies, blogs and wikis: Environments for on-line collaboration. *Language Learning & Technology*, *7*(2), 12–16.

Hanks, W. F. (1991). Foreword. In Lave, J., & Wenger, E. (Eds.), *Situated learning: Legitimate peripheral participation* (pp. 13–24). Cambridge, UK: Cambridge University Press.

Healey, D. (2007). Theory and research: Autonomy and language learning. In Egbert, J., & Hanson-Smith, E. (Eds.), *CALL environments: Research, practice and critical issues* (pp. 377–389). Alexandria, VA: TESOL.

Homes, J., & Meyerhoff, M. (1999). The community of practice: Theories and methodologies in language and gender research. *Language in Society*, *28*, 173–183. doi:10.1017/S004740459900202X

Hughes, A. (2009). *Higher education in a Web 2.0 world: Report of an independent committee of inquiry into the impact on higher education of students' widespread use of Web 2.0 technologies.* Retrieved from http://www.jisc.org.uk/publications/documents/heweb2.aspx

Jones, R. H., Garralda, A., Li, D. C. S., & Lock, G. (2006). Interactional dynamics in on-line and face-to-face peer-tutoring sessions for second language writers. *Journal of Second Language Writing*, *15*(1), 1–23. doi:10.1016/j.jslw.2005.12.001

Kessler, G. (2009). Student initiated attention to form in wiki based collaborative writing. *Language Learning & Technology*, *13*(1), 79–95.

Kessler, G., & Bilowski, D. (2010). Developing collaborative autonomous abilities in computer-mediated language learning: Attention to meaning among students in wiki space. *Computer Assisted Language Learning*, *23*(1), 41–58. doi:10.1080/09588220903467335

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.

Lee, L. (2002). Synchronous online exchanges: A study of modification devices on non-native discourse. *System*, *30*, 275–288. doi:10.1016/S0346-251X(02)00015-5

Leonntiev, A. M. (1978). *Activity, consciousness and personality*. Upper Saddle River, NJ: Prentice Hall.

Levy, M. (2007). Culture, culture learning and new technologies: Towards a pedagogical framework. *Language Learning & Technology*, *11*(2), 104–127.

Light, R. J. (2001). *Making the most of college: Students speak their minds*. Cambridge, MA: Harvard University Press.

Liu, J., & Sadler, R. (2003). The effect and affect of peer review in electronic versus traditional modes on L2 writing. *Journal of English for Academic Purposes*, *2*, 193–227. doi:10.1016/S1475-1585(03)00025-0

Long, M. H. (1981). Input, interaction and second language acquisition. In Winitz, H. (Ed.), *Native language and foreign language acquisition* (pp. 259–278). New York, NY: Academy of Sciences.

Long, M. H., & Robinson, P. (1998). Focus on form: Theory, research, and practice. In Doughty, C., & Williams, J. (Eds.), *Focus on form in classroom second language acquisition* (pp. 15–41). Cambridge, UK: Cambridge University Press.

Lund, A. (2008). Wikis: A collective approach to language production. *ReCALL*, *20*(1), 35–54. doi:10.1017/S0958344008000414

Lundin, R. W. (2008). Teaching with wikis: Toward a networked pedagogy. *Computers and Composition*, *25*, 432–448. doi:10.1016/j.compcom.2008.06.001

Mason, R., & Rennie, F. (2008). *E-learning and social networking handbook: Resources for higher education*. New York, NY: Routledge.

McConnell, D. (2006). *E-learning groups and communities*. London, UK: SRHE/OU Press.

McLoughlin, C., & Lee, M. J. W. (2007). Social software and participatory learning: Pedagogical choices with technology affordances in the Web 2.0 era. In *Proceedings of the International Conference on Providing Choices for Learners and Learning*, Singapore.

Meyers, E. M. (2007). From activity to learning: Using cultural historical activity theory to model school library programmes and practices. *Information Research*, *12*(3), 313.

Negretti, R. (1999). Web-based activities and SLA: A conversation analysis research approach. *Language Learning & Technology*, *3*(1), 75–87.

News Office. (2010, June). China's Internet. *China Daily*.

Oliver, K. (2007). Leveraging Web 2.0 in the redesign of a graduate-level technology integration course. *TechTrends*, *51*(5), 55–61. doi:10.1007/s11528-007-0071-3

Ratner, K. (2006). *Cultural psychology: A perspective on psychological functioning and social reform*. Mahwah, NJ: Lawrence Erlbaum.

Redecker, C. (2009). *Review of learning 2.0 practice: Study on the impact of Web 2.0 innovations in education and training in Europe*. Seville, Spain: European Commission Joint Research Centre Institute for Prospective Technological Studies.

Richardson, W. (2006). *Blogs, wikis, podcasts, and other powerful web tools for classrooms*. Thousand Oaks, CA: Corwin Press.

Schwienhorst, K. (2003). Neither here nor there? Learner autonomy and intercultural factors in CALL environments. In Palfreyman, D., & Smith, R. C. (Eds.), *Learner autonomy across cultures: Language education perspectives* (pp. 164–180). New York, NY: Palgrave Macmillan.

Sotillo, S. (2000). Discourse functions and syntactic complexity in synchronous and asynchronous communication. *Language Learning & Technology*, *4*(1), 82–119.

St. Clair, R. N. (2008). Social scripts and the three theoretical approaches to culture. *Intercultural Communication Studies*, *17*(4), 171–183.

Swain, M. (1995). Three functions of output in second language learning. In Cook, G., & Seidlhofer, B. (Eds.), *Principle and practice in applied linguistics: Studies in honour of H. G. Widdowson* (pp. 125–144). Oxford, UK: Oxford University Press.

Toner, G. D., Barr, S., Martins, C., & Wright, V. (2008). *Multimedia language learning in higher education in the UK*. Retrieved from http://www.cemll.ulster.ac.uk/downloads/survey%20report.pdf

Trentin, G. (2009). Using a wiki to evaluate individual contribution to a collaborative learning project. *Journal of Computer Assisted Learning*, *25*, 43–55. doi:10.1111/j.1365-2729.2008.00276.x

van Lier, L. (2000). From input to affordance. In Lantolf, J. (Ed.), *Sociocultural theory and second language learning* (pp. 245–259). Oxford, UK: Oxford University Press.

Vanderplank, R. (2010). A decade of research on language laboratories, television and video in language learning. *Language Teaching*, *43*(1), 1–37. doi:10.1017/S0261444809990267

Vratulis, V., & Dobson, T. M. (2008). Social negotiations in a wiki environment: A case study with pre-service teachers. *Educational Media International*, *45*(4), 285–294. doi:10.1080/09523980802571531

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Wang, H. (2010, June 30). Shanghai officials polish English skills: Government policy. *People Daily*.

Ware, P. D. (2004). Confidence and competition online: ESL student perspectives on web-based discussions in the classroom. *Computers and Composition*, *21*(4), 451–468. doi:10.1016/S8755-4615(04)00041-6

West, J. A., & West, M. L. (2009). *Using wikis for online collaboration: The power of the read-write web*. New York, NY: John Wiley & Sons.

Wheeler, S., Yeomans, P., & Wheeler, D. (2008). The good, the bad and the wiki: Evaluating student-generated content for collaborative learning. *British Journal of Educational Technology*, *39*(6), 987–995. doi:10.1111/j.1467-8535.2007.00799.x

Dongshuo Wang is a language teacher at the Confucius Institute of Manchester University, UK. Her research areas are metaphors, interactive learning and intercultural communication. Based on her theoretical knowledge in language and communication, coupled with her experience in teaching Chinese as a foreign language, she has developed her own pedagogies in teaching spoken and written Chinese. She is also interested in e-learning.

Bin Zou received his PhD degree in TESOL and Computer Technology from the University of Bristol and his MA degree from the University of York (UK). He is a team leader at the English Language Centre, Xi'an Jiaotong-Liverpool University, China, and currently teaches EAP, Business English and Science English. Dr Zou's research interests include applied linguistics, ELT, EAP, CALL and ICT, particularly the design of materials and activities in e-learning environments. He has presented papers at international conferences in the UK, USA, Ireland, China, etc., published articles in international journals and edited books.

Minjie Xing is a senior language teacher at the University of Manchester, UK. She obtained her PhD in Language and Culture at the University of Salford, UK (2002). Since then, she started teaching at the higher education in the UK to various levels of university students, including first degree of single honours and joint honours, MAs and PhD. Her expertise lies in interactive teaching in class and autonomous learning out of class. Before she came to the UK, she was a full professor of English at Harbin Institute of Technology, China. Her teaching has always been well received both in China and in the UK. Her teaching is well-informed by recent researches. Her research papers have been published in LL&T, System and Innovations in Education and Training International. Dr. Xing is the corresponding author for this article.