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"It Encourages Me to Keep Talking": Enhancing L2 WTC Behavior and Oral Proficiency Through a HOT Approach

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Much L2 willingness to communicate (WTC) research has mainly focused on factors influencing WTC, but researchers have rarely explored the type of learning tasks which fosters L2 WTC behavior. Based on a social constructivist perspective, a higher-order thinking (HOT) approach was designed to promote L2 WTC behavior and investigate its effects on L2 WTC behavior, the relationship between L2 WTC behavior and L2 speaking proficiency, and factors influencing L2 WTC behavior. A comparative case study design was used with participants from two freshman EFL classes. Data were collected through observation from pre-test, post-test, delayed post-test, and stimulated recall interviews. Results show that the HOT approach significantly improved students' L2 WTC behavior with a sustainable effect and that L2 WTC behavior was positively correlated with L2 speaking ability. Student interviews revealed a positive attitude toward the thinking approach and a perceived enhancement of L2 speaking and L2 WTC. Implications for L2 teaching that enhances L2 WTC behavior are discussed.

Keywords: L2 WTC behavior; L2 speaking; higher-order thinking

Introduction

Several researchers (e.g., Dörnyei, 2005; MacIntyre, Baker, Clément, & Donovan, 2003) have contended that the ultimate goal of language instruction is the creation of

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willingness to communicate (WTC) in the language learning process. Motivating students who have high levels of anxiety when required to talk in L2 classrooms is a critical issue in L2 teaching. Empirical studies into L2 WTC have mainly centered on trait-like WTC and situational WTC where L2 WTC is interdependent among individual students' personalities, linguistic abilities, and situational and environmental conditions (Cao, 2014) as well as communication strategies (Yousef, Jamil, & Razak, 2013). Although much research has been carried out in recent years into WTC, many areas like how teachers, teaching techniques, and procedure influencing L2 WTC are still unexplored (Zarrinabadi & Tanbakooei, 2016). Relatively few studies have explored the types of learning tasks which reinforce the actual L2 WTC behavior in an L2 classroom. It is essential to inform educators and teachers what type of learning tasks fosters L2 WTC behavior and whether L2 WTC behavior correlates with L2 speaking proficiency. This provides a better understanding of the role of WTC in L2 learning.

Thinking tasks like higher-order thinking (HOT) and critical thinking tasks are mainly used for active learning in L2 classrooms. Empirical studies have shown that thinking tasks are effective in fostering L2 reading and listening (Yang & Gamble, 2013), and speaking (Chen, 2015; Zhang, Anderson, & Nguyen-Jahiel, 2013). Thus, thinking tasks are applied to motivate students' willingness to talk in the present study.

L2 WTC

L2 achievement can be affected by a variety of cognitive and affective factors that are possessed by the learner (Ellis, 1999). Among a range of affective factors accountable for individual differences in L2 learning, WTC has drawn considerable interest in L2 research. WTC in L2 is defined as "a readiness to enter into discourse at a particular time with a specific person or persons, using an L2" (MacIntyre, Dörnyei, Clément, & Noels, 1998, p. 547) and is considered to be the direct precedent to learners' actual engagement in L2 communication, while L2 WTC behavior refers to the actual WTC behavior occurred. WTC is an essential condition for language development (MacIntyre & Legatto, 2011; Peng, 2007) because students with higher WTC create more opportunities for authentic L2 use.

MacIntyre, Dörnyei, et al. (1998) constructed a heuristic model of L2 WTC, proposing WTC to be an interaction between cognitive affective variables and social factors. Based on this heuristic L2 WTC model, a number of researchers have investigated the relationships of L2 WTC and a variety of variables and found that these variables have a significant immediate influence on WTC, including motivation (MacIntyre, Baker, Clément, & Conrod,

2001; Peng & Woodrow, 2010), anxiety (Yashima, 2002), self-confidence (Cao & Philp, 2006; de Saint Léger & Storch, 2009), linguistic self-confidence (Clément, Baker, & MacIntyre, 2003; Yashima, 2002), perceived competence (de Saint Léger & Storch, 2009; MacIntyre & Doucette, 2010), and familiarity with interlocutor and topic (Kang, 2005; MacIntyre, Burns, & Jessome, 2011). Among Chinese L2 learners, in particular, lack of any one of the readiness factors (like linguistic, affective, cognitive, and cultural) results in an unwillingness to communicate (Peng, 2007).

L2 WTC is not merely influenced by learners' trait variables; L2 learning contexts such as conversational context can affect L2 WTC. Cao's (2014) study, investigating the dynamic and situated nature of students' WTC in L2 classrooms, revealed that L2 WTC construct is depicted as a dynamic situational variable; situational L2 WTC is the result of the interdependence among individual students' personalities, learning environmental conditions, and linguistic factors. Further, Fushino's (2010) study, exploring the relationships among factors that may affect students' WTC in L2 group work, found that L2 WTC in group work is significantly influenced by the beliefs about and communication confidence in group work.

Previous L2 WTC research has mainly focused on factors affecting students' intention to communicate. To the best of the author's knowledge, in the L2 context, there are only one study exploring how L2 WTC was enhanced through instruction using visualization and goal setting (Munezane, 2015) and two studies examining the relationship between L2 WTC and L2 speaking performance. One study reveals that L2 WTC was significantly correlated with the amount of L2 oral production in the case of learners with high positive attitudes toward the argumentative tasks (Dörnyei & Kormos, 2000), and the other study shows that students with high WTC behavior produced more complex utterances than those with low WTC behavior in narrative tasks (Cao, 2012). However, analysis based on the length of utterance and grammatical complexity provides only limited insights into students' speaking ability. As Ortega (2003) found, syntactic complexity does not necessarily have a positive relationship with L2 proficiency. The relationship between a higher WTC behavior and a good command of spoken language (use of language) in a social context is yet to be explored. The ability to communicate in a social context is important for language development as stated in Vygotsky's (1978) social constructivism and essential for second language acquisition as argued in Long's (1996) interaction hypothesis. Therefore, it is necessary to investigate whether L2 WTC behavior correlates with L2 speaking ability in a social context (e.g., small group work).

L2 speaking anxiety and oral achievement are significantly correlated (Woodrow, 2006). Learners with a high degree of communication apprehension have weak communication skills (McCroskey, 1997) and lack the motivation to actively participate in group work. Also, it is argued that people who are weak in communication lack communication strategies (Phillips, 1984). Thus, equipping students with communication techniques is necessary and an effective tool to encourage students to involve in conversation (Gallagher Brett, 2001). Communication strategies such as negotiation, modified output, and self-repairing strategies (Faerch & Kasper, 1983) as well as reconceptualization strategies which refers to an alternation of more than a chunk of the preverbal idea (Poulisse, 1990), assist learners to overcome their communication difficulties in conversation. An adequate command of communication strategies reduces students' communication anxiety in conversation (Dörnyei, 1995), strengthens students' L2 WTC (Yousef et al., 2013), and has a significant effect on language performance (Dörnyei, 1995). Students' confidence increases as they achieve effective communication by comprehending the ideas of their group members and in turn offering their opinions and ideas (Avery & Ehrlich, 1992).

HOT and L2 Learning

Educators and researchers (e.g., McGuinness, 1999) have highlighted the importance of teaching HOT. HOT refers to analysis, synthesis, and evaluation thinking described in Bloom's (1956) taxonomy. Empirical research has used various thinking activities to improve students' L2 performance. Yang and Gamble (2013) conducted critical thinking activities to foster L2 reading and listening. Zhang et al. (2013) used why and how questions to facilitate the acquisition of spoken English. Alcón (1993), Ayaduray and Jacobs (1997), and Godfrey (2001) applied questioning using higher-order questions to develop longer utterances, grammatical complexity, and oral interaction. Results of a recent study (Chen, 2015) showed that a HOT approach not only resulted in improvements in HOT, but also led to improvements in students' overall L2 speaking proficiency. The results of these studies indicate that while thinking activities in the L2 classroom are certainly cognitively challenging for L2 learners, the nature of the thinking activity/task encourages students' willingness to express their ideas and communicate with other group members, leading to an improvement in oral performance.

A HOT Approach

The HOT approach (for the theoretical conceptual framework, see Chen, 2016) is based on a social constructivist theory (Vygotsky, 1978) where cognitive and language development is constructed jointly through social interaction. The advantage of a social constructivist pedagogy, as stated in Watson (2001), is seen as the promotion of learning experience in which learning is active, thinking is built on and extended, the awareness of one's own learning is assisted, students are in control of their own learning, and confidence and self-esteem are raised. The social interaction provides opportunities for the occurrence of socio-cognitive conflicts in which different perceptions arise and are rectified (Mugny & Doise, 1978) using higher cognition. Learners are compelled to externalize their ideas, making their opinions explicit to themselves and to others. The active exchange of ideas within small groups increases interest among the participants and fosters learning outcomes, communication strategies, learning motivation, and psychological health (Jacobs, Power, & Loh, 2002). Language use in this verbal interaction is authentic as learners have to contend with spontaneous language. In L2 learning, Swain's (2000) output hypothesis postulated that language serves as a cognitive tool in a social context that facilitates the learning process. Learning occurs with the scaffolding (Wood, Bruner, & Ross, 1976) of other people in the zone of proximal development (Vygotsky, 1978) where assistance not only can be provided by more skillful learners, but non-experts in L2 learning (Swain & Lapkin, 1998). This view of language learning suggests that infusing HOT into L2 learning through a social context (e.g., small group work) motivates students' willingness to talk and facilitates L2 development (Mackey, 1999). It is important to note that small group work provides a less stressful environment, leading to an increased use of the target language (Tsui, 1996) and a willingness to engage in HOT.

The HOT approach consists of thinking tasks designed with higher-order questions (Morgan & Saxton, 1994) which requires students to actively use HOT. This approach motivates students to speak by engaging them in thinking-task group work. Yet, group work might not be effective in L2 learning without providing students with the means to interact. Thus, the HOT approach also includes a use of sufficient wait-time, probing, and communication skills. Research (Tobin, 1987) has shown that a longer wait-time is associated with higher-order questions and that sufficient wait-time is one of the crucial elements in terms of higher cognitive level learning. Probing (Wu, 1993) allows students to create further opportunities to think and speak, while communication skills (e.g., asking for

clarification and confirmation) (Long, 1996) facilitate students' willingness to communicate (Yousef et al., 2013).

Motivation for Research

The present study argues that, having examined the L2 WTC variables revealed in the studies noted above, identifying the type of learning tasks which strengthens L2 WTC behavior is essential to facilitate L2 learning. Also, to better understand the relationship between WTC and L2 learning, the relationship between L2 WTC behavior and L2 speaking proficiency needs to be examined. The primary objective of the HOT approach is to encourage students to express their opinions and communicate with other group members, and thus promote students' WTC behavior. Therefore, the HOT approach is used as a treatment to stimulate L2 WTC behavior in the present study.

Research Questions

The present study aims to enhance students' L2 WTC behavior through the HOT approach and explore the relationship between L2 WTC behavior and L2 speaking proficiency in a social context (small group work). Factors affecting students' intention to communicate are also examined to provide a more holistic understanding of how this approach affects L2 WTC behavior and the acquisition of L2 speaking. The three research questions are as follows:

1. What is the effect of the HOT approach on students' L2 WTC behavior?
2. What is the relationship between L2 WTC behavior and L2 speaking proficiency?
3. What are the factors affecting students' L2 WTC behavior when applying the HOT approach?

The Context of the Study

English is recognized as an international language and is the most commonly studied foreign language in Taiwan. Yet, English is seldom used outside of English classes. Taiwanese students possess a collective and hierarchical cultural background where they are used to sit quietly to listen in class, responding passively to comprehension-check questions. University students are willing to speak in English classes when they know the answer or are

prepared for class; in contrast, they are less willing to engage in discussion when their views differ from others' perspectives or they are not comfortable with their classmates (Hsu, 2012). Further, students experience medium anxiety level in English speaking class (Ma, 2016). Their willingness to communicate is positively influenced by their self-efficacy beliefs, and the use of negotiation for meaning strategies can significantly affect their willingness to speak in the classroom (Lin, 2016).

Method

The study applied a comparative case study design — two cases with embedded units (Yin, 2003): one case was the intervention class which received the HOT approach, while the other was the comparison class. According to Yin (2003), an empirical inquiry investigates a current phenomenon within its real-life context and a case study is one method that researchers can adopt. A comparative case study method allowed the researcher to investigate the impact of the HOT approach on L2 WTC behavior and obtain a holistic understanding of "how" the approach influenced students' L2 WTC behavior in this particular learning context. In addition to the pre-test and post-test design, delayed post-test was further administered to examine whether the impact of the HOT approach on L2 WTC behavior is retained by the learners. As Mackey and Gass (2005) argue, the real issue regarding implementing a teaching approach is whether it results in learning by examining its long-lasting effect.

Participants

Two EFL classes of non-English major students from a large university in Taiwan participated in this study. They were aged between 18 and 19 years. One class (n = 43) was assigned to be the intervention class, and the other (n = 36) as the comparison class. Within each class, six study group members based on volunteer sampling were selected as embedded units. They further formed two small self-selected groups of three. The research purpose and procedures were explained to participants and informed consent was obtained.

Intervention

This study conducted a HOT approach aiming to strengthen students' L2 WTC behavior. The procedure consisted of two steps. First, the teacher modeled the thinking tasks

for students in a teacher-fronted setting, concentrating on activating students' schemata and demonstrating ways to respond to higher-order questions, communication strategies and language use. Second, thinking tasks were implemented in small groups. Students were first required to present their opinions on the questions listed in the thinking-task handout and then encouraged to think critically about their group members' contributions to the discussion and interact by commenting on one another's opinions. Students were required to reach a consensus within a group through discussion. At this stage, students applied the skills learned in the first step (for an example of a HOT lesson plan, see Appendix 1).

Four types of thinking tasks, including *5Ws*, *Odd One Out, Make-Up-a-Story*, and *Guess What I Say*, used with each task, provided opportunities to exercise particular higher cognition (for an example of the thinking tasks, see Appendix 2). Each type of tasks was developed for three different topics, totaling 12 tasks in which links to related sentence patterns and vocabulary were provided. The following is a summary of the tasks:

- *5Ws* (Butterworth & O'Connor, 2005) activates students' analysis, synthesis, and evaluation thinking, mainly asking questions such as "why," "how," and "which is better …."
- *Odd One Out* (Leat, 1998) fosters classification skills, and requires students to classify three objects and pinpoint which one differs from the others.
- *Make-Up-a-Story* develops synthesis thinking, requiring learners to create a story based on provided pictures.
- *Guess What I Say* requires students to arrive at an answer (e.g., an idiom) using analytical thinking.

The study was accomplished in a compulsory English course, featuring a two-credit course offering 2-hour lesson per week. The two classes used the same textbook and reading materials and were taught by the same teacher at a similar time of day. The teacher had taught the two classes in the previous semester and was familiar with the students and the textbook. The two classes both received a 50-minute lecture in the first lesson focusing on vocabulary, grammar, and reading comprehension. In the second lesson, the intervention class implemented the HOT approach, while the comparison class received speaking tasks provided by the textbook without any training in HOT. Yet, speaking tasks provided by the textbook sometimes include higher-order "why" and "how" questions. The study lasted a semester, 18 weeks, including one week of course administration, 12 weeks of implementation of the thinking approach, and an interval of 4 weeks without practicing the thinking tasks between post-test and delayed post-test (on the last week) data collection.

Based on a review of the literature relating to WTC, rationales underlying the conduct of the HOT approach to enhance students' WTC were developed. To strengthen students' beliefs in the usefulness of thinking tasks, this study postulated that thinking tasks create extensive speaking opportunities and improve their L2 speaking and in addition would foster students' willingness to talk and participate in group discussion. To create a positive relationship among group members, students were allowed to form their own small groups. Since cognitively challenging thinking tasks are more likely to increase students' anxiety and reduce students' willingness to speak, teacher modeling allowed students to become familiar with the thinking tasks and reduce their level of anxiety. Another action taken to help reduce students' communication apprehension was the instruction requiring students to reach a consensus within a group, which, in turn facilitated the building of team spirit and bonds among students and created the space for students to work together. The thinking tasks were designed to be success-oriented, thus students did not need to worry about getting the wrong answers to the questions. The topics used in the thinking tasks were related to the textbook contents and life experiences of the learners. In order to foster students' linguistic confidence, language support took the form of task-related worksheets highlighting vocabulary and sentence patterns.

Measurement

The assessment primarily focused on practice in one of the four thinking tasks: 5Ws. The topics used for data collection at the pre-, post-, and delayed post-test were:

- What do you consider the most ideal country to visit for a novice backpacker?
- What do you consider the best way to travel around Taiwan, by car, motorbike, bicycle, or public transport?
- Which do you consider the ideal place to shop, online or in-store?

Data Collection

Observation data were collected from the group discussions of the two classes to examine changes in students' L2 WTC behavior and L2 speaking proficiency. At the semester commencement, the pre-test was conducted. Two camcorders were used to record a 15-minute group discussion of the two study groups. Before conducting the group discussion, the teacher explained the task, what the students were to discuss, and encouraged them to give opinions and comment on others' viewpoints. Beyond this, no further

assistance was provided by the teacher. Applying the same processes for collecting the video data, the post-test was carried out after the 12-week intervention and delayed post-test data were collected 4 weeks after completing the intervention.

Interview data were collected from the intervention class to explore the factors affecting students' WTC behavior. Stimulated recall interviews were carried out with each of the six study group members on the 3rd, 9th, and 12th week of the intervention to elicit more in-depth information regarding students' reflections on their learning (for interview questions, see Appendix 3). The students were interviewed in Chinese and all the interviews were audio-recorded.

Data Analysis

The students' WTC behavior was measured based on an adapted version of Cao and Philp's (2006) observation scheme of WTC behavior (see Appendix 4). Students' WTC behavior was coded according to the scheme categories and the total number of frequencies was calculated for each observed discussion session. One trained researcher participated in the data analysis and double-coded the video data. The interrater reliability for the WTC behavior coding reached 94.8% agreement, which met the general check-coding standard of a 90% range (Miles & Huberman, 1994).

Individual L2 speaking proficiency was evaluated applying the public version of IELTS speaking-band descriptors comprising four categories: fluency and coherence, lexical resource, grammatical range and accuracy, and pronunciation. Two speaking test experts who were acquainted with the IELTS speaking-band descriptors evaluated the speaking proficiency. Rating standardization between the two raters was conducted before the assessment using a group discussion data sample collected during the intervention and reached a 91.01% agreement. The two raters then individually assessed student speaking proficiency by using the video data. The raters were blind to the intervention condition, and the video recording was played in a non-sequential order of pre-, post-, and delayed post-test to reduce rater bias of certain outcomes. The interrater reliability for speaking proficiency assessment met a 90.23% agreement. All ratings gained from the two raters were then averaged for each student.

The transcripts of the interview data were first read, re-read and annotated with remarks, a process called "open coding" (Merriam, 2009). The researchers discussed the remarks made in the data using a sample of the interview data. They then individually marked the data. The total number of analysis units was counted. The interrater reliability reached a

90.03% agreement. The discrepancies in the initial coding results were discussed and negotiated until reaching a mutual agreement. They looked through the remarks again, attempting to cluster the remarks into broader ideational categories. Eight main themes arose. The initial remarks were then categorized into these eight themes individually. The interrater reliability for the theme coding reached 98.07%.

Results

Due to a small sample size, the descriptive results of L2 WTC behavior and L2 speaking proficiency were computed using nonparametric statistical test, Mann-Whitney U test, to identify the effects of the HOT approach on L2 WTC behavior and L2 speaking proficiency. Further, Wilcoxon Signed-Rank test was used to reveal individual class progress. Results of Mann-Whitney U test showed no statistically significant difference between the intervention and comparison classes on L2 WTC behavior ($Z = -0.88$, $p > .05$, see Table 1) and L2 speaking proficiency ($Z = -0.59$, $p > .05$) in the pre-test. This suggests that prior to the research, the two classes were equivalent in L2 WTC behavior and L2 speaking proficiency.

Table 1: A Comparison of L2 WTC Behavior

	Comparison (n = 6)	intervention (n = 6)	Mann-Whitney U	Z value (Mann-Whitney U)
Pre-test	16.5 [13; 26]	22.0 [18.0; 25.0]	12.5	−0.88
Post-test	11.0 [8.0; 14.0]	37.5 [32.0; 41.0]	0.0	−2.88**
Delayed post-test	18.5 [12.0; 21.0]	36.0 [28.0; 43.0]	1.0	−2.72**
Z value (pre-post) Wilcoxon Signed-Rank	−1.78	−2.06*		
Z value (pre-delayed) Wilcoxon Signed-Rank	−0.67	−1.99*		

* $p < .05$, ** $p < .01$

Effects on L2 WTC Behavior

Table 1 reveals a statistically significant difference between the two classes in L2 WTC behavior in the post-test ($Z = -2.88$, $p < .01$) and the delayed post-test ($Z = -2.72$, $p < .01$), meaning that the intervention students significantly outperformed the comparison students immediately following the intervention, achieving higher median values (37.5 > 11.0; 36.0 >

18.5) with a sustainable result. Very importantly, the intervention class itself also made considerable enhancement in the post-test ($Z = –2.06$, $p < .05$) and delayed post-test ($Z = –1.99$, $p < .05$). Results demonstrated in Table 1 indicate the significant, positive, sustainable effect of the HOT approach on L2 WTC behavior.

Correlation Between L2 WTC Behavior and L2 Speaking Proficiency

There is a significant difference between the two classes in L2 speaking proficiency in the post-test ($Z = –2.17$, $p < .05$) and the delayed post-test ($Z = –2.36$, $p < .05$), meaning that the intervention students improved their L2 speaking proficiency significantly more than the comparison students did. Furthermore, the intervention class itself made significant enhancement in the post-test ($Z = –2.21$, $p < .05$) and the delayed post-test ($Z = –2.20$, $p < .05$). The effect of the HOT approach on L2 speaking proficiency is positive and sustainable.

Descriptive results of L2 WTC behavior and L2 speaking proficiency of the two classes at pre- and post-test, as shown in Table 2, were further computed using Spearman rank-order correlation to identify the relationship between L2 WTC behavior and L2 speaking proficiency. Table 3 demonstrates the Spearman's rank correlation coefficients. The Spearman's rank correlation shows, as expected, no relationship between L2 WTC behavior and L2 speaking proficiency before the intervention ($r = .367$, $p > .05$). Interestingly, after 12 weeks of intervention, a significantly strong positive correlation between L2 WTC behavior and L2 speaking proficiency ($r = .623$, $p < .05$) occurred. Intervention students

Table 2: Descriptive Results of L2 WTC Behavior and L2 Speaking Proficiency

	Mean	*SD*	*n*
Pre-test WTC behavior	3.34	1.02	12
Post-test WTC behavior	3.98	2.41	12
Pre-test speaking	5.10	0.44	12
Post-test speaking	5.18	0.48	12

Table 3: Correlation Between L2 WTC Behavior and L2 Speaking Proficiency

Variables	Pre-test WTC behavior	Post-test WTC behavior
Pre-test speaking	.367	
Post-test speaking		.623*

* $p < .05$

made significant improvement in both L2 WTC behavior and L2 speaking proficiency, while comparison students did not. Results demonstrated in Table 3 indicate that while applying the HOT approach, positive correlation between L2 WTC behavior and L2 speaking proficiency occurs.

Factors Affecting L2 WTC Behavior

Positive value

The students saw positive value in the thinking tasks, with positive comments dominating the data. The pleasure and value was shown to support the students in taking the initiative and participating in discussion. A sample response includes:

> It is interesting to work on thinking tasks because I need to think before expressing my ideas.

Usefulness

Participation in discussion was challenging, yet the students found it useful because they were able to develop their communication skills and to learn various opinions and ideas from their peers. A sample comment includes:

> Communicating authentically in English language using higher-order thinking is practical and useful in real life … The communication skills like reasoning can be applied to my future job.

Positive recognition

Compared to the traditional instruction, most students appreciated the thinking-task group work. It prompted the learning environment to become active and lively. The students also recognized that they gained more opportunities to speak English authentically and could take ownership of the learning process. Sample responses include:

> Unlike the traditional instruction, thinking tasks activate the learning atmosphere.

> There are plenty of speaking opportunities.

Negative recognition

A few students expressed sentiments focusing on the challenge associated with figuring out the answers using HOT. They felt pressure. In particular, students who preferred a traditional teaching method, which is similar to grammar-translation method, showed negative attitudes toward thinking tasks. This deterred them from participating in group discussion. Sample comments include:

> I feel a lot of pressure while working on thinking tasks. I prefer the traditional teaching method because I feel relaxed and learn more [vocabulary and grammar].

> I don't like this kind of tasks. I don't know how to express my thoughts due to a lack of lexical knowledge.

An increase of communication confidence

Students also claimed that they lessened their anxiety by perceiving an increased productivity in speaking (Rivers, 2001). They reported an increase in confidence which in turn led to an increased desire to speak. A sample response is as follows:

> I used to feel pressure to speak English. I wasn't confident enough to express my ideas in English … Now I have more confidence and feel like speaking.

Self-perceived communicative competence

The participants stated that their communicative competence increased. They could, for instance, manage to convey their ideas in English and resolve conflicts through arguing and persuading. Participants made the following comments:

> In the beginning, I couldn't follow the discussion because my English was poor. I understand much better now. When I successfully expressed my ideas and we discussed it, I felt a sense of accomplishment. It encourages me to keep talking.

> When a conflict arose during group discussion, I could argue with my group members and we managed to reach a consensus.

Motivation

Students also claimed that interesting topics and a need to resolve the conflicts that occurred in the process of reaching a consensus motivated them to communicate. A sample response includes:

> When I'm interested in that topic, I would talk more.

Development in L2 communication strategies

The students were aware of a development in L2 communication strategies: substitution and reconceptualization strategies. They also perceived that their ability to extend the topic and ask for clarification and confirmation was enhanced. Sample responses include:

> I used to give up expressing my idea when lacking adequate vocabulary. I solved this problem by using other words to substitute the words I didn't know. Sometimes, I just explained the idea in another way.

> I didn't bother to clarify what I didn't understand before. Now I ask for help by saying "I don't understand" and my group members will explain to me. So, I can continue the discussion.

Discussion and Limitation

The HOT approach effectively fostered L2 WTC behavior and the improvement in L2 WTC behavior was positively correlated with L2 speaking proficiency. Moreover, the effects were shown to be sustained which is very important for a successful teaching approach (Mackey & Gass, 2005). Though L2 WTC construct is as a dynamic situational variable and L2 WTC can change from moment to moment (Cao, 2014), the present study has revealed that L2 WTC behavior can be continually fostered using the HOT approach. The findings of the present study support Swain's (2000) claim that, from a sociocultural theoretical perspective, when spoken language serves as an intellectual tool, it assists L2 learning process. It also supports Vygotsky's (1978) social constructivist theory, which advocates the importance of the social context for language development.

The improvement in L2 WTC behavior can be explained by the following reasons. The students have positive attitudes toward the HOT approach. This finding is consistent with

those of Fushino (2010) and Dörnyei and Kormos (2000), who found that positive attitudes toward and beliefs about the tasks strengthen students' L2 WTC. Building a positive L2 learning attitude is important because it promotes students' motivation toward learning (Gardner, 1985). Teacher modeling provides learners with a clear model of communication skills, decreasing communication apprehension. Students perceived an improvement of communicative competence. They understood the ideas expressed by others, and were then able to express their comments on the viewpoints of group members, thus their confidence increased (Avery & Ehrlich, 1992). For the inactive L2 learners, this is a very substantial change in which they have transformed their learning style from passive to active. This can be seen as a milestone in the process of developing L2 WTC behavior, where students move from "did not dare to speak" to "can reason and argue with others." It indicates that students with inactive learning style can become active learners with high WTC behavior when the pedagogy used allows them to think critically and independently (Gieve, 1998). In addition, students claimed development in L2 communication strategies which, in turn, facilitates interaction (Gallagher Brett, 2001) and encourages the occurrence of L2 WTC behavior. It is important to note that reconceptualization strategies are effective in enhancing the comprehensibility of L2 speech and L2 speaking proficiency (Littlemore, 2003). Yousef et al. (2013), using quantitative research method, found that communication strategies can directly affect students' L2 WTC. The current study has further showed that, in practice, a development of L2 communication strategies fosters the effectiveness of communication and strengthens L2 WTC behavior.

However, one factor that deters students' willingness to speak in thinking-task group work needs to be noted. Students who possess a passive learning style and prefer to sit quietly and listen to the teacher may remain passive during discussions due to increased levels of anxiety resulting from tasks that require increased cognitive effort and the need to engage actively in group discussions.

The factors underlying students' willingness to communicate found in the present study fit with Fushino's (2010) L2 group work structural model. Yet, the present study, based on a teaching approach research, has further revealed that a development of L2 communication strategies helps overcome a lack of linguistic knowledge and facilitates the occurrence of L2 WTC behavior.

The finding of the present study reveals the positive relationship between L2 WTC behavior and L2 speaking proficiency. Cao's (2012) study unveiled that students with high WTC behavior produced more complex utterances than those with low WTC behavior. The

empirical evidence of the present study has evidenced that students with high L2 WTC behavior significantly enhanced their L2 speaking proficiency and L2 WTC behavior is closely related to L2 speaking proficiency in the learning context using the HOT approach.

Prior to improving L2 learning, the significance of enhancing L2 WTC behavior should be recognized and tackled. The present study has evidenced a social context with thinking tasks provokes L2 WTC behavior. Future researchers are encouraged to use this study as a pilot; a further study could address the research limitations like the small sample size. The study participants' initial L2 speaking proficiency was at IELTS level 5. The extent to which the HOT approach can positively impact on L2 WTC behavior with students with lower and higher L2 speaking proficiency levels also needs to be researched.

Implications for Teaching

The results of the present study look promising for the teachers who intend to improve students' L2 WTC behavior and L2 speaking proficiency. A social constructivist approach, the HOT approach, promotes active learning. Following the socio-cognitive conflicts, the continuous commenting, justifying and reasoning provides students with opportunities to readjust conflicting viewpoints. This is where students proactively use their HOT and L2 WTC behavior is encouraged. Such a learning environment is supportive of the development of an authentic dialogue and motivates students to speak, thus fostering learning motivation and learning outcomes (Jacobs et al., 2002). Teacher modeling allows students to be familiar with the tasks and decreases communication apprehension. These teaching principles are effective for promoting L2 WTC behavior. Students with a passive learning style pose a particular problem if the teaching/learning objective is WTC. Therefore, techniques to encourage passive learners to become more active speakers need to be developed within the framework of a HOT approach.

It is also important to equip students with the communication skills like reasoning, making comments, asking for clarification and confirmation during teacher modeling. Language communication strategies like substitution and reconceptualization can be trained before conducting the tasks. These skills play a vital role in encouraging L2 WTC behavior and will allow learners to "be more able to bridge the gap between pedagogic and non-pedagogic communicative situations" (Faerch & Kasper, 1983, p. 56).

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Appendix 1: *An Example of a HOT Lesson Plan*

I. Objectives

At the end of the lesson, the students should be able to:

- evaluate the best way to travel around Taiwan;
- take other's opinions into account;
- reason with examples and evidence;
- conduct HOT including evaluation, analysis, and synthesis.

II. Subject: Traveling

Material: Thinking task handouts, PPT

Values: Develop HOT; develop the ability to assess the best way for students to explore Taiwan, taking factors like budget, weather, convenience, and enjoyment into account.

Means: Teacher modeling and group discussion

III. Procedure

A. Teacher modeling (15 minutes)

Aiming to activate students' schemata, and demonstrating ways to respond to higher-order questions, communication strategies and language use.

The teacher asks questions related to traveling as follows: "Do you like traveling?" "Where have you visited in Taiwan?" "Did you travel by car or by train?" "Do you prefer to travel alone or with others?" "Have you ever been in a difficult situation while traveling?" "How did you handle it?" "What do you think is the best way to travel around Taiwan for students?"

The teacher can choose one student to answer the question and make comments on the response by saying, "I agree/disagree with you because …" or "That's a good idea, but I would …" Then the teacher invites other students to comment on the thoughts expressed to foster interaction among students. At this stage, it is important to provide sufficient wait-time for students to come up with an answer. Also, the teacher can demonstrate communication skills like asking for clarification by saying: "Could you please say that again?" "Do you mean …?" "Could you please explain what is meant by …?" etc.

B. Thinking-task group discussion (30 minutes)

The teacher gives students thinking task handouts and explains what students need to do.

C. Wrap up (5 minutes)

Have each group present their answers. Then the teacher invites the class to comment on the answers.

IV. Assignment

Writing

Students write down the best way they consider to travel around Taiwan with reasons provided and the possible difficulties they might encounter. Also, they need to justify why the other means are less suitable for them.

Appendix 2: *An Example of the Thinking Tasks*

Topic: What do you consider the best way to travel around Taiwan, by car, motorbike, bicycle, or public transport?

Task type: 5Ws

Higher-order thinking: Evaluation, analysis, synthesis

Task: Select the best way to travel around Taiwan within your group. You are required to elaborate the best way you consider and then persuade others of your opinions with reasons, evidence and examples.

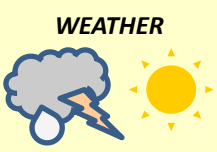
Ways to travel around Taiwan




Places to visit




Some criteria that you need to take into account while making your decision



Sentence patterns

1. I think *a car* is the best way to travel around Taiwan because …
2. *Traveling by car* is a good way to get around Taiwan, but …
3. I see your point, but you might need to consider *your budget* that …
4. We also need to take *the weather* into account while making the decision.
5. I *agree/disagree* with you because …

Appendix 3: *Stimulated Recall Interview Questions*

1. Do you like today's thinking task? Why or why not?
2. Did you feel like talking in today's thinking task? Why or why not?
3. Are you happy with your performance in today's thinking task?
4. Do you remember what you were thinking at the time when you hesitated/looked puzzled/looked confident?
5. Did you encounter any difficulties while working on today's thinking task? How did you solve the problems?
6. In general, did you perceive any impact of the HOT approach on your L2 learning?
7. Do you have any additional thoughts about the learning of the HOT approach?

Appendix 4: *Observation Scheme — WTC Behavior Categories*

1. Present own opinions in group.
2. Ask group members a question.
3. Give an answer to the question.
4. Guess the meaning of an unknown word.
5. Try out a difficult (lexical, morphological, syntactic) form.
6. Respond to an opinion.

通過高等思考法促進學生外語溝通意願行為和口語能力

陳美惠

摘 要

大部分外語溝通意願的研究都着重於發現影響溝通意願的因素，很少探索哪種學習狀況可以強化學生使用外語的溝通意願行為。基於社會建構主義觀點，本研究設計一套高等思考法來提升外語的溝通意願行為，並探查這思考法對外語溝通意願行為的影響、外語溝通意願行為和外語口語能力的相互關係，以及在此學習狀況下會影響學生溝通意願行為的因素。本研究使用比較型案例研究法，兩班大學一年級英文課學生參與研究，透過課堂觀察（包括前測、後側及延後測）和刺激回憶訪談收集資料。研究結果顯示，高等思考法能顯著提升學生的外語溝通意願行為，此結果並具有持續性；學生的外語溝通意願行為和外語口語能力有正向的顯著關係；學生對這高等思考法抱持積極態度，且感受到自己的外語口語能力有進步，溝通意願增加。最後，本文討論本研究所產生對促進外語溝通意願行為的外語教學意涵。

關鍵詞： 外語溝通意願行為；外語口語；高等思考

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