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## THE DEPLOYMENT OF ENGLISH LEARNING STRATEGIES IN THE CLIL APPROACH: A COMPARISON STUDY OF TAIWAN AND HONG KONG TERTIARY LEVEL CONTEXTS

### Abstract

This paper compares and contrasts the English learning strategies used by Chinese speakers under the CLIL approach in two different contexts, Taiwan and Hong Kong. We adopted Oxford's (1990) Strategy Inventory for Language Learning (SILL) as our instrument to identify their strategy preferences. The results demonstrate that both Taiwanese and Hong Kong CLIL learners use Language Learning Strategies (LLS) to a medium degree, but the former deploy LLS more frequently than the latter. Taiwanese learners tend to use indirect strategies more often than direct strategies, completely opposite to their Hong Kong counterparts. The rankings of the LLS preferences of the two groups also differ. Their preferences differ from the common assumption that Chinese-speaking learners rely more on memory strategies due to the traditional rote learning style. The Taiwan group shows many significant intra-group variations among the gender, discipline, and English level variables. In contrast, the Hong Kong group exhibits less variance between these variables. Finally, it was found that the employment of 27 strategies out of 50 (54%) demonstrated significant differences between the two contexts. Offering bridging courses in ESP or EAP to scaffold learners with specific language knowledge before mastering the subject matter is recommended in the EFL contexts where CLIL will be implemented.

44

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### Key words

content and language integrated learning (CLIL), language learning strategies (LLS), Taiwan, Hong Kong, tertiary level.

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## Sažetak

U ovom radu upoređuju se i kontrastiraju strategije učenja engleskog jezika kod kineskih govornika uz primenu integrisanog učenja jezika i stručnog gradiva u dva različita okruženja, Tajvanu i Hong Kongu. Kao instrument uočavanja preferencija pri korišćenju strategija prihvaćen je Inventar strategija učenja stranog jezika (Oxford, 1990). Rezultati pokazuju da i tajvanski i honkonški učenici uz primenu integrisanog učenja jezika i stručnog gradiva u srednjem obimu koriste strategije, ali da ih tajvanski koriste češće od honkonških. Tajvanski učenici češće koriste indirektnu od direktnih strategija, dok je sasvim suprotno kad je reč o njihovim honkonškim kolegama. Preferencije korišćenja strategija kod dve grupe takođe se razlikuju. Njihove preferencije razlikuju se od uobičajene pretpostavke da se govornici kineskog više oslanjaju na strategije pamćenja usled tradicionalnog načina učenja putem memorizacije i ponavljanja. Tajvanska grupa ispoljava više značajnih varijacija u pogledu varijabli kao što su pol, disciplina i nivo znanja engleskog jezika, za razliku od hongkonške grupe koja ispoljava manje varijacija u pogledu ovih varijabli. Konačno, pronađeno je da korišćenje 27 od ukupno 50 strategija (54%) ispoljava značajne razlike između ova dva okruženja. Preporučuju se prelazni kursevi poput kursa engleskog jezika struke i nauke ili kursa engleskog za akademske potrebe, koji bi mogli da omoguće studentima sticanje specifičnih znanja jezika pre nego ovladavanja stručnim gradivom u okruženjima gde se primenjuje integrisano učenje stranog jezika i stručnog gradiva.

## Ključne reči

integrisano učenje jezika i stručnog gradiva, strategije učenja stranog jezika, Tajvan, Hong Kong, tercijarni nivo.

## 1. INTRODUCTION

English is viewed as a lingua franca and thus is extensively used as a medium of instruction in courses in non-English speaking contexts in order to pursue internationalisation and respond to the requirements of globalisation, in particular, in higher education institutions (Coleman, 2006). This means that the ways of learning and teaching English need to be changed (Westerholm & Räsänen, 2015). Content and Language Integrated Learning (CLIL) is one of the common approaches proposed to accommodate the concerns of acquiring both language skills and content knowledge, and has been popularly adopted in tertiary education, particularly in European countries (Arno-Macia & Mancho-Bares, 2015). CLIL is a dual-focused educational approach whereby an additional language,

usually English, is used for the learning and teaching of both content and language (Marsh & Frigols Martín, 2013). CLIL is expected to contribute to learners' linguistic performance and to their content achievements.

In Taiwan, CLIL courses or degree-based programmes have recently emerged as a new force. For the past couple of years, the Taiwanese educational Yangities (Ministry of Education, MOE) and university administrators have encouraged the implementation of English-taught CLIL courses/programmes by offering subsidiary incentives because CLIL is believed to have both in-bound and out-bound benefits. Hence, the number of CLIL courses/programmes, all of which are delivered in English only, is growing at a fast rate. Studies evaluating CLIL programmes and their positive effects on learners' achievements have recently been carried out (Yang, 2015, 2017a, 2017b; Yang & Gosling, 2013, 2014). However, there is still a need for a thorough and deeper investigation of which strategy types are deployed by CLIL learners to approach both content and language learning via English in Taiwan's CLIL educational context, to better understand which strategies account for the initial success of the approach.

In contrast to Taiwan, CLIL education, or the EMI approach, has been extensively and successfully implemented in Hong Kong, where English is frequently used to teach subject matter at all educational levels due to its historical and social contexts (Cenoz, 2015). Taiwan and Hong Kong share very similar sociocultural and language backgrounds, and thus it is expected that the successful experiences of the latter can shed light on the implementation of CLIL education in Taiwan. Hence, a comparative study of CLIL learners' strategy types in CLIL classrooms in both contexts can help confirm the indicators of successful language learning strategies in Chinese speaking contexts, and also help CLIL-developing contexts such as Taiwan or other Asian EFL countries to achieve better results.

## 2. LITERATURE REVIEW

### 2.1. Benefits of CLIL education for pupils and language learning<sup>1</sup>

Much of the previous research has extensively verified the positive effects of the CLIL approach in terms of linguistic improvement, although it has been found that some skills may outperform others. Several of the experimental studies have found that learners' comprehension abilities or receptive skills tend to improve more significantly than their productive skills (Aguilar & Rodriguez, 2012; Dalton-Puffer, 2007). This may be because the receptive skills (i.e. vocabulary, listening or

<sup>1</sup> This paper is written based on an original grant proposal and thus parts of its introduction, literature review and research method sections were generated and rewritten from the MOST grant proposal.

reading) are more frequently practised than the productive skills (i.e. writing or speaking) in CLIL programmes (Coonan, 2007).

Comparisons of CLIL and non-CLIL learners' pronunciation, vocabulary, grammar, fluency, and content have shown that CLIL learners tend to outperform their non-CLIL counterparts (Ruiz de Zarobe, 2008). CLIL learners have also been found to gain positive improvements in other language skills including lexis (Heras & Lasagabaster, 2015), morpho-syntax (Lorenzo, Casal, & Moore, 2010), speaking (Admiraal, Westhoff, & de Bot, 2007), and writing (Pessoa, Miller, & Kaufer, 2014).

CLIL has also been found to provide non-linguistic benefits. For instance, Dupuy (2000: 219) found that CLIL learners "show increased self-confidence in their ability to use the target language and express an interest in pursuing its study." CLIL not only fosters learners' self-esteem and motivation to learn another language (Heras & Lasagabaster, 2015), but also helps learners to develop a 'can do' attitude towards language learning (Marsh, 2000). Above all, CLIL is also regarded as a change agent for improving learners' real-life communication skills, helping them to operate efficiently in intercultural interaction situations. This advantage could ensure them a position in the competitive global labour market. In Asian settings, studies on the implementation of CLIL in Taiwan, Hong Kong, and China have confirmed that CLIL can be a viable alternative to the traditional ELT approaches for accommodating students' subject knowledge and linguistic competence.

## **2.2. Language learning strategies (LLS)**

According to Oxford (1990: 8), "learning strategies are specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective and more transferable to new situations". Su (2005) argued that one goal of higher education is to develop learners' LLS so that they can be self-directed in their life-long language learning. Research has indicated that LLS are closely associated with learners' language performance achievements (e.g. Bremner, 1999; Oxford, 1989). There is also evidence that good language learners adopt certain strategies to make their learning more effective (Rubin, 1981). Oxford (1990) established a comprehensive inventory which attempted to include all possible LLS, named the Strategy Inventory for Language Learning (SILL). She divided LLS into two main areas: direct (memory, cognitive, and compensation strategies) and indirect (metacognitive, affective, and social strategies), with a total of 50 strategy types identified and classified into these six categories. As suggested by Oxford (1990) and Su (2005), average scores of 3.5-5.0 on a 5-point Likert scale are classed as high use, those of 2.5-3.4 are classed as medium use, and those of 1.0-2.4 are defined as low use.

One direction of LLS research has been to differentiate the use of strategy types into various factors or groups from a micro-perspective such as age (Oxford

& Ehrman, 1995), gender (Liu, 2004), ethnicity or culture (Rao, 2006), affective factors (Ehrman, Leaver, & Oxford, 2003), course type (Hong-Nam & Leavell, 2006), major (Gu, 2002), course level (Griffiths, 2003a), past learning experience (Griffiths, 2003b), or learning beliefs and values (LoCastro, 1994). Most of these studies have found that LLS are used significantly differently by various groups of learners. However, to date, there has been little research investigating the successful use of LLS in the different education approaches used to teach language learners, or a comparison of the strategy types adopted by speakers of Mandarin Chinese, the largest ethnic group of English learners in the world (Yong & Campbell, 1995), across different countries and/or areas.

### 2.3. Taiwanese EFL learners' LLS

As far as Taiwanese learners are concerned, compensation strategies have been found to be used more frequently by Taiwanese college students in other studies applying SILL in addition to Yang's (1992) primary study. These studies using SILL include Su's (2005) research on Taiwanese polytechnic students, which found that the participants were medium strategy users with a mean of 2.86, and tended to use social strategies more frequently. Echoing the previous international studies, different variables have been found to affect LLS across learner groups in the context of Taiwan. For example, investigations by Chang, Liu, and Lee (2007) and Chang (2011) identified significant differences in strategy use according to gender and academic major, according to age, as found by Chen (2014), grade level (Chen, 2009), ethnic group (Yang, 2007), proficiency level (Lai, 2009; Wu, 2008), motivation (Lan & Oxford, 2003), and learner beliefs (Yang, 1999). Almost all of these studies came to the conclusion that Taiwanese EFL learners are low to medium strategy users, with average scores ranging from 2.5 to 3.4 out of a total of 5.

Contrary to these findings, Yang's (2017b) pilot study of CLIL learners specifically pointed out that Taiwanese university CLIL learners tend to be higher-medium strategy users and frequently use metacognitive strategies, which is very different from the results of the previous studies investigating Taiwanese language learners in EFL settings. The reasons for these differences are still unknown, and thus a broader and deeper exploration to establish a more representative model is clearly necessary.

### 2.4. Hong Kong EFL/ESL learners' LLS

In a similar vein, research on LLS using the SILL has also received much attention in Hong Kong, the partner research context. Once again, the positive relationship between LLS and language proficiency has been documented (Bremner, 1999) and variables including age (Kennedy, 2002), gender and academic discipline (Peacock

& Ho, 2003), and effective/ineffective learners (Wong & Nunan, 2011) have also been shown to have a significant influence on the employment of different strategies. However, as a result of Hong Kong's English status and its unique location as the meeting point of West and East during the colonial period, a number of these studies were conducted from the perspective of cultural variables. For instance, Flowerdew (1998) suggested that Chinese-speaking EFL learners foster collaborative learning strategies such as group work under the influence of the learning values of Confucian culture. Biggs (1991) also argued that because Chinese students can be easily controlled in their learning, teacher interventions to teach them learning strategies are encouraged.

On the other hand, these cultural influences have been greatly challenged by some researchers in recent years. In Gan's (2009) comparative study of mainland and Hong Kong Chinese, it was claimed that differences in the contextual institutional and social environments, rather than cultural effects, can crucially determine learners' strategy use. By including Taiwanese Chinese-speaking learners in the research, this contention can be further verified. Thus, a comparison of Taiwanese and Hong Kong learners' LLS use as proposed in the present study can be beneficial in terms of deepening our understanding of this issue.

## **2.5. Relation between CLIL and LLS/SILL**

Although SILL has been extensively used in many contexts to research LLS in ELT settings, an examination of its impact on the CLIL approach is still lacking. As Ruiz de Zarobe and Zenotz (2015: 2) pointed out, "there is very little research concerning the fundamental concept of learning strategies and strategic instruction in CLIL". This is surprising considering that LLS are viewed as an essential and integral part of CLIL (Wolff, 2009).

As far as we are aware, most of the studies which have addressed this connection draw only a partial picture. For instance, in Soussi's (2015) survey of Moroccan university students' responses to CLIL education in terms of their self-perception of their language development and changes in LLS, the respondents reported that they employed 'interactive' and 'metalinguistic' strategies more frequently in order to master the content taught in English. In a similar vein, Hellekjær and Hopfenbeck (2012) also found that to achieve effective comprehension, learners at secondary schools used different strategies to approach reading taught in CLIL and EFL settings. In learning vocabulary, Castellano Risco's (2015) questionnaire survey indicated that, in contrast to EFL learners, CLIL learners used significantly more consolidation and cognitive strategies, and also had a larger receptive vocabulary. However, Jäkel's (2015) study revealed the interesting result that LLS do not necessarily benefit learners;

the study found that in fact, “employing a large number of strategies with high frequency impedes language proficiency” (p. 296).

One study on the relationship between the adoption of learning strategies and CLIL in Chinese-speaking contexts is Li and Ruan’s (2015) research on Mainland Chinese CLIL/EMI learners’ beliefs regarding English learning. Their study found that the learners’ beliefs about how English should be learnt in CLIL environments changed significantly. They indicated that a number of features of introducing CLIL/EMI practices into class were responsible for these changes, specifically: the changes in assessment, teachers’ roles, the study of subject matter via the target language, and the learners’ involvement in extracurricular activities. Several researchers have therefore recommended that CLIL practitioners encourage strategies which create greater opportunities for communication with peers and teachers to facilitate meaningful communication and negotiation of meaning in CLIL/EMI classrooms (e.g. Dafouz, Llinares, & Morton, 2010; Li & Ruan, 2015).

It appears that the only investigation into the use of SILL with the aim of understanding CLIL learners’ LLS is Yang’s (2017b) pilot study, in which it was found that CLIL learners’ LLS show significant differences ( $p < .05$ ) from those of English majors for 12 strategy types (24% of 50 types), where English majors tend to use more cognitive strategies, whereas CLIL learners rely more on compensation strategies.

It is argued that once beneficial learning strategies can be identified and then taught in Asian EFL contexts, learners will become more aware of not only how they learn but how they can learn more effectively and autonomously (Ruiz de Zarobe & Zenotz, 2015). This is thus the major motivation of the current research. More specifically, the research aims to answer the following questions:

1. What LLS do Taiwan CLIL learners deploy, and is there any significant difference according to various variables?
2. What LLS do Hong Kong CLIL learners deploy, and is there any significant difference according to various variables?
3. Are there significant differences in the LLS employment of Taiwan and Hong Kong CLIL learners?

### 3. RESEARCH METHODS

#### 3.1. Participants and the instrument

In Taiwan, the LLS survey was circulated through the connections of the researcher, assistants, and students. In total, 275 Taiwanese CLIL learners agreed to respond to the questionnaire survey, including 193 females and 82 males, 235 studying in the soft and 40 in the hard discipline areas, 265 undergraduates and 10 graduates, all

with different levels of English proficiency. In contrast, only 54 students in Hong Kong universities completed the questionnaire survey, with 35 females and 19 males, 24 from the soft and 30 from the hard knowledge domains, 49 undergraduates and 5 graduates, all with a similar command of English. It should be noted that, due to the uneven numbers of each variable (i.e. gender, degree, discipline, and English proficiency) intra-groups and inter-groups (TW vs. HK), the statistical results should be interpreted with caution. However, the random sampling in different institutes and including respondents with various demographic backgrounds help to ensure the representativeness of the Hong Kong sample.

The questionnaire adopted for the survey is based on Oxford's (1989, 1990) SILL, which has been extensively adopted worldwide and is the most comprehensive tool to measure learners' strategy types of learning another language in many contexts (Hsiao & Oxford, 2002). The present questionnaire adapted its version 7.0, and consists of two sections. The first consists of the items about the respondents' demographic backgrounds, while the second includes 50 items in six categories: memory, cognitive, compensation, metacognitive, affective, and social strategies. SILL is a self-scoring questionnaire, each item of which describes a strategy type using a 5-point Likert-scale. According to Oxford (1990), the first three strategies are also categorised as direct strategies, while the latter three are indirect strategies. For easy comprehension, the SILL questionnaire was provided in a bilingual version in the current research. The validity of the Chinese version reaches Cronbach's alpha .959, while that of the English version is .930.

### **3.2. Data analysis**

Once the data were collected, they were uploaded to SPSS 21 for descriptive analysis, including frequencies, means, standard deviations, and percentages. This analysis helped reveal the general distributions of strategy types employed by the participants in the two settings, which were also compared to the previous works to understand whether CLIL learners and EFL learners have divergent or similar tendencies of using the strategy types when learning English. We then used SPSS 21 again to run *t* tests and one-way ANOVA in order to determine the effects of gender, nationality, academic major, self-reported English proficiency, and study degree. The Scheffe post-hoc test was performed to identify whether any significant differences existed within the groups, while the Pearson correlation test was run to determine if there were any significant relationships between the variables. The standard for significance for this research was set at  $p < .05$ . The following sections discuss the results of the analysis.

## 4. RESULTS AND DISCUSSION

### 4.1. Language learning strategies deployed by Taiwanese students

As Table 1 exhibits, in general, Taiwan CLIL learners are classed as medium users of LLS with an average of 3.3606. They used indirect slightly more frequently than direct LLS. The descriptive results do not differ from the previous report investigating Taiwan EFL learners' LLS (Su, 2005). However, unlike EFL learners, CLIL learners tended to deploy meta-cognitive strategies more often but used memory strategies less often. This means that CLIL learners can control their own cognition (e.g. coordinating the planning, organising, and evaluation of the learning process) (Lai, 2009) while learning the target language. They are more aware of their learning process and of constantly monitoring their own learning results. This is also in line with the pilot study which found that indirect strategies, replacing direct strategies, have become dominant in tertiary CLIL contexts due to the features of frequent collaborative interaction with peers and the differentiated purpose of learning English (Yang, 2017a). These results may also indicate that in the CLIL setting, linguistic elements are integrated with content knowledge and thus using direct strategies to be aware of the language targets and then learning them would not be so common. Instead, CLIL learners tend to rely more on indirect strategies in order to successfully interact with their peers.

Direct			Indirect		
Memory	Cognitive	Compensatory	Metacognitive	Affective	Social
3.1563	3.4322	3.3345	3.5212	3.18	3.4945
<b>Average</b>	<b>3.3076</b>		<b>Average</b>	<b>3.3985</b>	

**Table 1.** Scales of direct/indirect strategy usage in the Taiwan group

Furthermore, we also compared the strategy employment among different variables in the Taiwanese group. The results are shown in Table 2. It was found that except for the variable of studying degree where no statistical difference was detected, all the other variables, namely, gender, study disciplines, and English proficiency, revealed significant differences among the various sub-groups. The results provide evidence that although learners tend to employ their most preferred strategies, they may use them from a stable-yet-flexible range (Dörnyei & Ryan, 2015; Oxford, 2011). First, Taiwanese learners are inclined to use their preferred strategies, no matter whether they are studying for an undergraduate or a graduate degree, indicating that using preferred strategies would not be easily affected as time changes. Secondly, male CLIL students use direct strategies significantly more often than the female students do. In other words, they rely more on using their memory, compensatory, and cognitive motors to approach English learning. In Taiwan, on average, female students have higher English

proficiency than male students, and the result indicates that more proficient language learners would use more indirect than direct strategies, and females are frequent strategy users (Su, 2005). These results are similar to Hong-Nam and Leavell's (2006) findings in their cross-country investigation.

Next, more significant differences occurred in the variance of the respondents' studying disciplines, which has not been explored in depth in the previous literature. The results show that those studying in the hard science domain tend to use cognitive strategies more often, while those studying in the soft knowledge area are inclined to use affective and social strategies more often. It is assumed that the distinctive features of soft and hard science knowledge contribute to this variation. Reasoning and analysing are two common learning qualities in studying hard science disciplines, which may also help students use cognitive strategies when approaching the target language learning. However, interaction with people is highly valued in most soft disciplines, and thus using affective and social strategies is more common for them to master a language. That is, disciplinary variations affect which language learning strategies are preferred. Yet, in using the memory strategy, the two knowledge domains show differentiated preferences for some strategy items, but their use is still affected by the qualities of the two areas. For instance, students in the hard sciences like to relate and connect the new linguistic elements to what they know, building up an internal logic to help their language learning. In contrast, students in the soft sciences often depend on external objects to help their language learning.

Finally, proficient English learners tend to use strategies more often than the intermediate and lower achievers, in particular cognitive strategies. In other words, they are equipped with better learning skills such as summarising, reasoning, or analysing to cope with language learning. These results are slightly different from Hong-Nam and Leavell's (2006) conclusion that EFL students in the intermediate level reported more use of learning strategies than those in the beginning and advanced levels. Taiwan CLIL learners are usually high achievers in English as the CLIL programmes usually require the learners to have a good entry level of English in order to comprehend the lectures.

<b>Variable</b>	<b>t-value</b>
<b>Gender</b>	
A.1 I think of relationships between what I already know and new things I learn in English.	t= -3.354, <.001***
A.2 I use new English words in a sentence so I can remember them.	t= -2.835, <.01**
B.13 I use the English words I know in different ways.	t= -2.110, <.05*
B.22 I try not to translate word-for-word.	t= -2.449, <.05*
C.24 To understand unfamiliar English words, I make guesses.	t= -2.310, <.05*
C.29 If I can't think of an English word, I use a word or phrase that means the same thing.	t= -2.979, <.01**
<b>Discipline</b>	
A.1 I think of relationships between what I already know and new things I learn in English.	t= -4.061, <.001***

A.3 I connect the sound of a new English word and an image or picture of the word to help me remember the word.	t= -2.154, <.05*
A.6 I use flashcards to remember new English words.	t= 2.260, <.05*
A.7 I physically act out new English words.	t= 2.413, <.05*
B.21 I find the meaning of an English word by dividing it into parts that I understand.	t= -3.073, <.01**
B.22 I try not to translate word-for-word.	t= -3.038, <.01**
E.41 I give myself a reward or treat when I do well in English.	t= 2.847, <.01**
E.43 I write down my feelings in a language learning diary.	t= 2.106, <.05*
E.44 I talk to someone else about how I feel when I am learning English.	t= 1.972, <.05*
F.47 I practise English with other students.	t= 2.762, <.01**
<b>Degree</b>	N/A
<b>English proficiency</b>	<b>ANOVA</b>
A.1 I think of relationships between what I already know and new things I learn in English.	(F(5:269)= 2.520, p<.05)
A.8 I review English lessons often.	(F(5:269)= 2.401, p<.05)
B.10 I say or write new English words several times.	(F(5:269)= 3.196, p<.01)
B.11 I try to talk like native English speakers.	(F(5:269)= 3.739, p<.01)
B.14 I start conversations in English.	(F(5:269)= 3.854, p<.01)
B.16 I read for pleasure in English.	(F(5:269)= 4.707, p<.001)
B.22 I try not to translate word-for-word.	(F(5:269)= 4.685, p<.001)
C.29 If I can't think of an English word, I use a word or phrase that means the same thing.	(F(5:269)= 2.301, p<.05)
E.43 I write down my feelings in a language learning diary.	(F(5:269)= 2.606, p<.05)
F.46 I ask English speakers to correct me when I talk.	(F(5:269)= 2.412, p<.05)

**Table 2.** Significant LLS differences between Taiwanese groups

## 4.2. Language learning strategies deployed by Hong Kong students

Table 3 reveals the overall results of the Hong Kong CLIL students' LLS. Although they can also be classed as medium strategy users like Taiwanese CLIL learners, their average score is lower ( $M=2.9248$ ). In addition, they tend to use direct more often than indirect strategies. The most frequently deployed are cognitive and compensatory strategies, while memory and affective are the least employed, which is largely the same as Bremner (1999) found. Gan's (2009) study also indicated that memory strategies are least used by Hong Kong university students. It seems that no matter whether students are taught in non-CLIL or CLIL models in Hong Kong, they display similar preferences for the strategies used. One possible explanation is that at Hong Kong tertiary institutions, the boundary between CLIL and non-CLIL is very blurred, as nearly all of its tertiary courses are delivered via an EMI model, which is a very strong CLIL approach. Thus, no differences can be distinguished between the two groups. Another possible reason is that Hong Kong students are exposed to English since a young age, and using English is very

natural in each part of their life. They also have ready access to using English for interaction in their social, educational, or economic life. English is a daily tool for communication in Hong Kong (Gan, 2009) and thus explicitly identifying which strategies they are using may seem unnatural to them. This may have led to the lower mean of LLS for the Hong Kong respondents.

Direct			Indirect		
Memory	Cognitive	Compensatory	Metacognitive	Affective	Social
2.5740	3.2354	3.3456	2.9053	2.3858	2.8736
<b>Average</b>	<b>3.0516</b>		<b>Average</b>	<b>2.7215</b>	

**Table 3.** Scales of direct/indirect strategy usage in the Hong Kong group

We also explored several variances in the Hong Kong group, the results of which are shown in Table 4. There are statistical differences in all four variables, but not as many as found for their Taiwanese counterparts. This may be due to the fact that both male and female students have equally high exposure to English in schooling and life in Hong Kong. Yet, female learners use rhymes to help learn new words more often than male students, while male learners more often pay attention when someone is speaking English. Second, students in the soft discipline domain deploy direct strategies significantly more often than those in the hard science area. In other words, students in the two disciplinary domains using indirect strategies show no significant differences; however, students in soft disciplines would be more aware of how to purposefully improve their English learning. They are conscious of manipulating what they know to approach the unknown, which is beneficial for learning new English words.

In the variable of programme degree, only one item exhibits significant difference between undergraduate and graduate degrees. It seems that graduates use flashcards more often than undergraduates to help them memorise new English words. It is assumed that in graduate programmes, students are expected to read many academic journal articles. Words in these highly academic English texts are not only professional and difficult, but are also relatively rare. Hence, using flashcards to note down the new words might be helpful for graduates to continuously review them and remember them successfully. Finally, five strategy items showed significant variations between proficient and intermediate English users in the present study. In Bremner's (1999) research, it was found that those Hong Kong students with better command of English tend to use cognitive and compensatory strategies, while those with lower English proficiency like employing memory and affective strategies. His finding is partially in line with the present study. Our research shows that proficient English users often use cognitive and social strategies, which is more similar to Green and Oxford's (1995) finding. It is obvious that proficient English users may have greater chances of frequent social

interaction with English speakers, and thus they often deploy social strategies to help them master English. Green and Oxford (1995) also argued that successful language learners use cognitive strategies more often as they usually learn the language more actively. However, as they and Bremner (1999) also caution, the causality of language proficiency level and strategy deployment has not yet been resolved as “many of the cognitive strategies could either be contributors to the acquisition of proficiency or, alternatively, be made more possible by increased proficiency” (p. 502).

Variable	t-value
<b>Gender</b>	
A.5 I use rhymes to remember new English words.	t= 2.232, <.05*
D.32 I pay attention when someone is speaking English.	t= -2.267, <.05*
<b>Discipline</b>	
A.1 I think of relationships between what I already know and new things I learn in English.	t= 2.754, <.01**
B.19 I look for words in my own language that are similar to new words in English.	t= 2.013, <.05*
C.27 I read English without looking up every new word.	t= 2.639, <.05*
C.29 If I can't think of an English word, I use a word or phrase that means the same thing.	t= 2.260, <.05*
<b>Degree</b>	
A.6 I use flashcards to remember new English words.	t= -3.208, <.01**
<b>English level</b>	
B.14 I start conversations in English.	t= 2.311, <.05*
B.15 I watch English language TV shows spoken in English or go to movies spoken in English.	t= 2.264, <.05*
B.16 I read for pleasure in English.	t= 2.761, <.01**
F.49 I ask questions in English.	t= 2.806, <.01**
F.50 I try to learn about the culture of English speakers.	t= 2.274, <.05*

**Table 4.** Significant LLS differences between Hong Kong groups

### 4.3. Significant differences in the LLS used by Taiwan and Hong Kong students

When comparing the differences between the two contexts, it was found that the employment of 27 strategies out of 50 (54%) demonstrated significant differences (see Tables 5, 6, 7, 8, 9, and 10). It is very interesting that Taiwan CLIL learners self-reported that they used LLS much more frequently than the HK learners did. This indicates that the Taiwan learners are more aware of deploying LLS in order to accommodate the CLIL approach. CLIL education is new to them and only available at tertiary level, so they have to consciously adopt LLS to acquire the content knowledge delivered mainly in English, something they did not need to do in their prior English learning experience. However, the CLIL approach or EMI may have been implemented at primary and secondary levels for a long period of time

in Hong Kong, so university CLIL education is familiar to the learners. This probably leads to the situation that they are unaware of using specific LLS, even though they are actually employing them since they have studied at earlier school levels using the CLIL approach.

<i>Memory Strategy</i>	<i>t-value</i>
A1. I think of relationships between what I already know and new things I learn in English.	t= 2.141, <.05*
A.3 I connect the sound of a new English word and an image or picture of the word to help me remember the word.	t= 4.564, <.001***
A.4 I remember a new English word by making a mental picture of a situation in which the word might be used.	t= 5.560, <.001***
A.5 I use rhymes to remember new English words.	t= 8.197, <.001***
A.6 I use flashcards to remember new English words.	t= 4.208, <.001***
A.9 I remember new English words or phrases by remembering their location on the page, on the board, or on a street sign.	t= 2.439, <.05*

**Table 5.** Significant differences in memory strategy deployed by TW and HK learners

<i>Cognitive Strategy</i>	<i>t-value</i>
B.14 I start conversations in English.	t= 5.468, <.001***
B.16 I read for pleasure in English.	t= -2.057, <.05*
B.17 I write notes, messages, letters, or reports in English.	t= -5.855, <.001***
B.18 I first skim an English passage (read over the passage quickly) then go back and read it carefully.	t= 2.097, <.05*

**Table 6.** Significant differences in cognitive strategy deployed by TW and HK learners

<i>Compensatory Strategy</i>	<i>t-value</i>
C.27 I read English without looking up every new word.	t= -2.312, <.05*

**Table 7.** Significant differences in compensatory strategies deployed by TW and HK learners

<i>Meta-cognitive Strategy</i>	<i>t-value</i>
D.30 I try to find as many ways as I can to use my English.	t= 3.770, <.001***
D.32 I pay attention when someone is speaking English.	t= 2.709, <.05*
D.34 I plan my schedule so I will have enough time to study English.	t= 4.405, <.001***
D.35 I look for people I can talk to in English.	t= 4.435, <.001***
D.36 I look for opportunities to read as much as possible in English.	t= 2.309, <.05*
D.37 I have clear goals for improving my English skills.	t= 6.640, <.001***
D.38 I think about my progress in learning English.	t= 4.860, <.001***

**Table 8.** Significant differences in meta-cognitive strategies deployed by TW and HK learners

<i>Affective Strategy</i>	<i>t-value</i>
E.40 I encourage myself to speak English even when I am afraid of making a mistake.	t= 2.109, <.05*
E.41 I give myself a reward or treat when I do well in English.	t= 9.871, <.001***
E.42 I notice if I am tense or nervous when I am studying or using English.	t= 5.570, <.001***
E.43 I write down my feelings in a language learning diary.	t= 8.507, <.001***
E.44 I talk to someone else about how I feel when I am learning English.	t= 5.235, <.001***

**Table 9.** Significant differences in affective strategies deployed by TW and HK learners

<i>Social Strategy</i>	<i>t-value</i>
F.45 If I do not understand something in English, I ask the other person to slow down or say it again.	t= 2.190, <.05*
F.46 I ask English speakers to correct me when I talk.	t= 4.520, <.001***
F.47 I practise English with other students.	t= 3.793, <.001***
F.48 I ask for help from English speakers.	t= 5.513, <.001***
F.50 I try to learn about the culture of English speakers.	t= 2.175, <.05*

**Table 10.** Significant differences in social strategies deployed by TW and HK learners

In addition, the surveys on Taiwan teachers and classroom observations in Taiwan also evidence that CLIL practitioners attend more to content teaching but less to language, which might be a driving force for its learners to consciously use LLS more frequently in order to study the courses successfully. Thus, it is assumed that how English and content are accommodated, taught, and learnt in the classroom and society in these two contexts can contribute to these potential differences. Yet, the actual reasons behind these divergences require further comparison and closer examination, in particular, by recruiting more Hong Kong CLIL learners and practitioners to join the future investigation.

## 5. IMPLICATIONS AND CONCLUSION

This research compared and contrasted the English learning strategies used by Chinese speakers under the CLIL approach in two different contexts, that is, Taiwan and Hong Kong. We adopted Oxford's (1990) Strategy Inventory for Language Learning (SILL) as our instrument to identify their strategy preferences. The results demonstrate that both Taiwanese and Hong Kong CLIL learners use LLS to a medium degree, but the former deploy LLS more frequently than the latter. Taiwanese learners tend to use indirect more often than direct strategies, completely opposite to their Hong Kong counterparts. This preference is different from the common assumption that Chinese-speaking learners rely on memory strategies more often due to the traditional rote learning style. This indicates that the CLIL approach may affect how English is learnt, and thus its learners would adopt their preferred LLS accordingly (Yang, 2017a). In addition, the Taiwan group shows many significant intra-group variations among the gender, discipline, and

English level variables. In contrast, the Hong Kong group exhibits less variance under these variables. This may imply that the English level of the Taiwan group is more diverse but that of the HK group is less so. Finally, it was found that the employment of 27 strategies out of 50 (54%) demonstrated significant differences between the two contexts. The reasons leading to these huge variations may come from the English status in the two settings. In addition, institutional contexts also contribute to the difference as only selected courses or programmes are designed as CLIL models in Taiwan, while nearly all courses or programmes are conducted according to the CLIL or EMI models in Hong Kong. Also, social environment causes this great diversity in using LLS. English is a communication tool, rather than a subject to learn in Hong Kong, and people there use it for daily purposes. Using English is naturally part of their life and this can affect and decrease their awareness of employing LLS.

The study also has the following pedagogical implications. Firstly, CLIL education is only available at tertiary level in Taiwan, but the CLIL or EMI model can be commonly found at all educational levels in Hong Kong. In other words, learning content knowledge and English begins at a very young age in Hong Kong, and this education policy ensures that students are equipped with not only better English proficiency levels but also competitiveness in the global job market. Hence, they are ensured better mobility and employability under earlier and intense exposure to CLIL/EMI teaching models. The successful case of Hong Kong can set a good example for Taiwan to consider the feasibility of trying the CLIL approach in secondary or elementary schools.

Secondly, offering Taiwan CLIL learners some bridging courses like English for Specific Purposes (ESP) to build a stronger base of English proficiency is also highly recommended, in particular in EFL settings (Yang, 2016). ESP involves learning vocabulary used in specific domains, which matches one of the linguistic aims of the CLIL approach. Memory strategies are evidenced to help learners recall and learn vocabulary (Atay & Ozbulgan, 2007). Besides, Alnufaie and Grenfell (2012) argued that appropriate employment of language strategies either for process- or product-based ESP writing could help improve writing quality. These process- and product-oriented writing strategies are respectively very similar to indirect and direct LLS. ESP practitioners have been encouraged to equip learners with different language learning strategies to meet their diverse needs when using English (Gatehouse, 2001). This approach has achieved good teaching efficacy. Hence, this technique is also recommended to CLIL teachers, especially if they hope to enhance Taiwan CLIL learners' productive language skills by introducing LLS.

Thirdly, although Yang (2017b) claimed that Taiwan CLIL learners tend to employ indirect LLS more frequently under CLIL education, the situation in Hong Kong as found in the present research reveals a different result. There are no good or poor LLS; rather, individuals have their own preferred LLS. As long as their preferences work effectively for them, they are good LLS. Thus, what teachers can do is introduce or teach each category of LLS and have learners decide on which

suits their learning style and facilitates their language learning. Learning strategies can be fixed but are also teachable. Both direct and indirect strategies can be beneficial to CLIL learners if they are used properly. “CLIL teachers can attempt to raise learners’ confidence and awareness of the fact that there is no single right strategy, but that multiple effective strategies can suit their new learning contexts” (Yang, 2017b: 22). Effective CLIL teachers should be able to design class tasks and then guide and scaffold learners through purposeful strategy choices (Hong-Nam & Leavell, 2006).

Finally, as Bremner (1999) suggested, teachers or LLS researchers have to be very cautious if they are attempting to associate the causality of learners’ language proficiency and their preferred LLS. It might be risky to easily conclude that LLS used by proficient English students are better strategies and should be promoted and delivered to other levels of students. Any association between English levels and LLS use should be treated with great care. What CLIL teachers can do is encourage learners to try each different strategy and practise more. It is in fact more appropriate for future LLS research to investigate “the effect of very specific strategies on localised aspects of proficiency, in specific contexts, over a period of time” (Bremner, 1999: 508). Hence, the present study does not attempt to argue a transplantation from the Hong Kong experience to the Taiwan context. For better quality language learning under the CLIL approach, contextualisation is always the key.

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60

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