

**ENGLISH-MEDIUM INSTRUCTION (EMI) CONTENT-AREA TEACHERS' (CATS')
PEDAGOGICAL CONTENT KNOWLEDGE OF SCAFFOLDINGS:
A VYGOTSKIAN PERSPECTIVE**

Yi-Ping Huang

ABSTRACT

As a result of the internationalization of higher education, more content-area courses in tertiary EFL academic environments are now being offered through English-medium instruction (EMI) (e.g., Nunan, 2003). Most studies on EMI in EFL universities still show that students encounter linguistic and non-linguistic difficulties (Huang, 2009) and thus need linguistic, cultural and social assistance from teachers (Huang, 2006). This paper, thus, seeks to demonstrate the usefulness of examining content-area teachers' EMI in EFL contexts from a Vygotskian perspective. In particular, it proposes a new framework for the scaffolding provided for content knowledge (i.e., a multitude of linguistic, conceptual, social, cultural and academic scaffolding) that is more contextually responsive to the EFL higher education context than Pawan's (2008). Under the impact of internationalization, cultural scaffolding includes the multicultural backgrounds of international students in curriculum design. More importantly, teacher provision of academic scaffolding, in which students' acculturation into university culture or specialists' fields of study, is emphasized (Lea & Street, 2006) through active participation in the communities of practice through engagement, imagination, and alignment (Wenger, 1998). This paper, then, calls for more research on how the internationalization of higher education might impact EMI practice in EFL higher education. Pedagogical suggestions for teacher development are also proposed.

Key Words: English-medium instruction, Pedagogical content knowledge, and scaffolding

INTRODUCTION

As a result of the internationalization of higher education, more

content-area courses in tertiary EFL academic environments are now offered through English-medium instruction (EMI) (Nunan, 2003). Research on bilingual education has shown that English language learners (ELLs) require a much longer time to develop academic literacy than conversational skills since the former is more cognitively demanding due to its decontextualized nature (Cummins, 2000). In particular, those who study in EMI courses in higher education encounter difficulties because of teacher accents, peer pressure, and unfamiliarity with the use of specialized vocabulary (Chen, 2008; Huang, 2009; Hudson, 2009), as well as unfamiliar representations of Western culture (Hudson, 2009). These students thus hope that teachers could pre-teach difficult terms (in Chinese), use technical support, and give them time to pose questions. Indeed, despite the prevalence of EMI courses in higher education, EFL students still encounter many learning difficulties when learning subject matter in English and so need linguistic, social and cultural assistance from teachers to facilitate their studies (Huang, 2006).

The educational support EMI content-area teachers (CATs) employ to facilitate EFL students' learning of specialists' knowledge in English is called scaffolding. According to Pawan (2008), the CATs in elementary and secondary education in the U.S. were able to recognize scaffolding practices in facilitating the ESL students' learning of subject matter in English, suggesting scaffolding an important component of teachers' pedagogical knowledge. Framing scaffolding in Shulman's (1987) sub-type of knowledge base (i.e., pedagogical knowledge) and modifying Collier's Prism model (Thomas & Collier, 2002), Pawan (2008) particularly showed that the CATs adopted the four types of scaffolding (i.e., linguistic, conceptual, social, and cultural) and that they needed more knowledge of cultural scaffolding in order to clarify myths about ELLs. While Pawan's study is comprehensive and her typology of the four kinds of scaffolding is congruent with the previous literature on effective content-based instruction (Snow, 1998; Snow & Brinton, 1997), her findings from ESL elementary and secondary education might not be applicable to EFL higher education. The consideration of contextual difference deserves further investigation as Shulman (1987) conceptualizes teacher knowledge as "pedagogical content knowledge" in order to distinguish teachers from specialists; he emphasizes that teachers should integrate subject matter and pedagogical knowledge by considering students' characteristics, curricula, context, and educational goals. It is thus of pedagogical interest to identify the major types of

scaffolding EMI CATs provide and the factors they consider when providing each type of scaffolding in the EFL higher educational context so as to explore their pedagogical content knowledge of scaffolding. Three research questions are, thus, addressed in this study:

1. Do EMI CATs perceive a need for scaffolding practices for EFL students when they are learning subject matter in English?
2. If so, what types of scaffolding do they provide? In what ways? Why?
3. What factors might EMI CATs consider when providing each type of scaffolding?

CONCEPTUAL FRAMEWORKS

To conceptualize EMI CATs' pedagogical content knowledge of scaffolding, Shulman's (1987) pedagogical content knowledge and Vygotskian sociocultural theory have been adopted:

Teacher Knowledge: Shulman's (1987) Pedagogical Content Knowledge

Unlike the positivist perspective of knowledge that privileges theory as a set of fixed ideas and downplays teaching experience as the expression of craft, technique, or skill, Shulman (1987) assumes CATs' knowledge or thinking as narrative-constituents that are contextualized in particular experience. As the current study focuses on CATs' knowledge in particular, Shulman's pedagogical content knowledge is adopted to emphasize that CATs need more than subject matter or pedagogical knowledge to become effective teachers. They also need a) "curriculum knowledge," b) "knowledge of learners and their characteristics," c) "knowledge of educational contexts," d) "knowledge of educational ends" (p. 8), and e) knowledge of language teaching (Hou & Tsi, 2005). That is, knowing how to teach a particular subject in English requires an understanding of curriculum, learners, teaching methods, and language teaching, and also of the educational goals and contexts in which one is teaching. Without considering these factors, one might simply be a specialist rather than a teacher. Thus, this study places the scaffolding offered by CATs within Shulman's pedagogical content knowledge to emphasize the necessity of integrated knowledge. This conceptualization of scaffolding is different from Pawan's (2008), where the scaffolding

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offered by CATs is described as pedagogical knowledge. EMI CATs' pedagogical content knowledge of scaffolding will, therefore, be uncovered from their teaching and life stories with a focus on the types of scaffolding they provide and the factors they consider when providing guidance to EFL students who are learning subject matter in English. By doing so, the necessity of the integration of different sub-types of teacher knowledge is emphasized.

Definition of Scaffolding: A Vygotskian Sociocultural Perspective

What is scaffolding? In this paper, Vygotskian sociocultural theory is adopted (e.g., Lantolf, 2000, 2006; Lave & Wenger, 1991; Valsiner & Van Der Veer, 2000; van Lier, 2008; Vygotsky, 1978; Wertsch, 1985) to conceptualize the types of educational support that EMI CATs perceive that they need to provide, that is, "scaffolding." This theory assumes that learning is socially mediated. In other words, the development of a higher mental process is a cultural process because it has social origins and cultural procedures. This socially mediated process (i.e., internalization) involves a transformation of the external sociocultural plane into the internal psychological plane via mediational mechanisms. The way in which mediational means are appropriated or internalized can be understood by observation as the types of scaffolding teachers use to promote students' abilities from the lower level of "*actual developmental level as determined by independent problem solving*" to the higher level of "*potential development as determined through problem solving under adult guidance or in collaboration with more capable peers*" (ibid)" (*italics in the original, cited in Wertsch, 1985, pp. 67-68*). This kind of improvement is called the Zone of Proximal Development (ZPD). Scaffolding, then, refers to any kind of guidance one provides to better facilitate another's progress in learning. Teachers' pedagogical content knowledge of scaffolding, then, refers to EMI CATs' awareness of providing guidance to facilitate EFL students' learning of subject matter in English with consideration of subject matter, context, student characteristics, educational goals, and curriculum. Note that scaffolding can come from sources other than teachers (Chin, 2007; Guk & Kellogg, 2007), such as more capable peers (Golombek & Johnson, 2004; de Guerrero & Villamil, 2000) and multimedia (Cumming-Potvin, Renshaw, & van Kraayenoord, 2003). It is not provided in a linear manner, but in a multi-layered array through which a hybrid of meaning

and the definition of experts are co-constructed and re-constructed (Cumming-Potvin et al., 2003).

Types of Scaffolding: An Extension of Pawan's (2008) Framework

Different scholars propose different types of scaffolding. Pawan (2008), in modifying Collier's Prism model (Thomas & Collier, 2002), framed pedagogical knowledge as linguistic, conceptual, social, and cultural scaffolding. Linguistic scaffolding refers to "any tools, guides or resources that are concerned with all aspects of English development, including formal, informal, conscious and sub-conscious aspects of the acquisition and learning, oral and written language skills" (p. 1451); conceptual scaffolding refers to "providing students with supportive frameworks for meaning ..." (p.1454); social scaffolding refers to the "use of social interaction to support and mediate learning" (p. 1454); and cultural scaffolding refers to the use of artifacts, tools, guides or resources that are culturally familiar to learners (p. 1454). Her typology is used because of its congruency with the types of educational support provided by content-based instruction teachers (Snow, 1998; Snow & Brinton, 1997). Also, her emphasis on the use of L1 as a type of cultural scaffolding is consistent with the recognition of ELLs' expertise and linguistic funds of knowledge (Hornberger, 2004; Martin-Beltran, 2009), with culturally responsive teaching (Gay, 2000), or even with resistance to linguistic imperialism (Saxena, 2009).

While Pawan's study was situated in elementary and secondary education in ESL academic environments, this study focuses on EMI graduate and undergraduate courses in higher education in EFL contexts. Two findings emerged from the data analysis in addition to those found in Pawan's study: the CATs' incorporation of students' different cultural backgrounds in curriculum design and the CATs' use of a new type of scaffolding, called academic scaffolding. The initial coding, thus, led the researcher to make the following modifications:

1. Re-definition of cultural scaffolding: In this study, cultural scaffolding is redefined to include not only the CATs' use of artifacts, tools, guides or resources that are culturally familiar to learners, but also the cultural backgrounds of international students. The reason for the incorporation of multicultural background of the students might be due to their recognition that

more international students have been recruited under the internationalization of higher education in Taiwan.

2. Discovery of academic scaffolding: Academic scaffolding is defined as the use of tools, guides, or information sources that help students acculturate into the new culture of their professional fields, which is congruent with one of Lea and Street's (2006) models of literacies, the academic socialization model regarding students' acculturation into a discipline (see also Gee, 2001, 2004). That is, the CATs are concerned with how to facilitate students' transformation from the position of being a novice to that of being a professional, instead of focusing simply on discrete study skills or academic literacies. In particular, students are not just simply apprenticed as professionals, but actively participate in different kinds of "communities of practice" through a sense of engagement (actual academic activities and organizations), imagination (the organization of academic activities across space and time), and alignment (the participation in social movement) (Wenger, 1998). A community of practice, according to Wenger (1998), is characterized by members' interaction with one another (mutual engagement), their shared endeavor (joint enterprise), and their common resources through which an identity of membership can be expressed and recognized (shared repertoire).

Despite the usefulness of Lea and Street's (2006) model of academic socialization and of Wenger's (1998) communities of practice, these researchers have been criticized for their neutral positions in regard to language learning and for their neglect of the necessity of viewing language as a way to establish, maintain, and negotiate one's membership in a community of practice (Barton & Tusting, 2005). In other words, a conceptual framework should capture a broader socio-political context through critical reflection that addresses the ideology underlying communities of practice (Norton & Kamal, 2003). For example, Norton and Kamal (2003) showed how students' imagined communities were multiple and could be understood both within the local context and against the global context. Pavlenko (2003) revealed how pre-service and in-service teachers successfully transformed their imagined communities from those environments with monolingual speakers or non-native-speakers of English to those with

multi-competent, bilingual or multilingual speakers. To address the political aspect of language learning and teaching, attention should be paid to the ideology underlying CATs' perceptions of their use of scaffolding in their communities of practice.

In conclusion, the above discussion shows that EMI CATs' knowledge of how to provide guidance can be better conceptualized as their pedagogical content knowledge of scaffolding with an emphasis on the necessity to integrate subject matter, curriculum, context, student characteristics and educational goals. Therefore, the final coding scheme includes linguistic, conceptual, social, cultural, and academic types of scaffolding. Among all, academic scaffolding emphasizes the importance of the academic socialization of literacies through active participation in communities of practice to form a sense of engagement, imagination, and alignment. The political aspect of the use of scaffolding in communities of practice should be noted in order to uncover the hidden ideology.

METHOD

Participants & Contexts

Due to the lack of previous relevant research, this study is viewed as an exploratory study. Data were collected from two universities in the northern part of Taiwan because they have demonstrated a long-term commitment to the internationalization of higher education. They also provide examples of three types of EMI curriculum designs in Taiwan: (a) campus-wide (i.e., almost all the courses on campus are taught in English), (b) program-wide (i.e., a program is especially designed within which all courses are taught in English), and (c) individual EMI courses (i.e., EMI courses are offered by individual teachers when deemed necessary). University A is a private university where over ninety percent of the curriculum on one of its campuses is offered only in English. The university expects all of the students on that campus to study abroad in their junior year. All of the students on this campus are undergraduate students, and most of them are Taiwanese.

University B is a public university with different types of EMI curriculum design, including (a) EMI programs at the undergraduate (e.g., commerce) and graduate levels (e.g., international studies and communication), and (b) individual courses in different fields offered in

English. The EMI programs are designed to facilitate transnational interflows of educational service and to train specialists to communicate via English in international academia, thereby recruiting more international students than Taiwanese in the EMI programs. In addition to the program-wide EMI courses, University B also encourages every teacher to offer individual courses in English at both undergraduate and graduate levels.

Eleven full-time social science teachers from the two universities were recruited through heterogeneous sampling (Glense, 2011), since "... any common patterns that emerge from great variation are of particular interest and value in capturing the core experiences and central, shared dimensions of a setting or phenomenon"(Patton, 2002, p. 235). Social science was targeted because EMI, according to Chiang's (2008) survey, was considered as one of the top eight indicators for internationalization in the field. At least one teacher from each type of EMI curriculum design was recruited in order to account for contextual factors (e.g., different types of programs, schools, and/or policies). The teacher participants were selected based on their willingness to participate, length of (English) teaching experience, and the context in which they were working. Table 1 shows the demographic information of these eleven participants.

Table 1. Participants' Demographic Information

	Gender	Content Areas	Length of Teaching Experience	Length of English Teaching Experience	Educational Levels of Students	EMI Student Population	EMI Course Design
University A							
T1	M	Politics	> 15 years	> 8 years	Undergraduate	Taiwanese	Campus-wide
T2	M	History	> 20 years	3 years	Undergraduate	Taiwanese	
T3	F	Language	4 years	3 years	Undergraduate	Taiwanese	
T4	F	Cultural Studies	5 years	1 year	Undergraduate	Taiwanese	
T5	M	Philosophy	3 years	2 years	Undergraduate	Taiwanese	

Table 1. Participants' Demographic Information (continued)

	Gender	Content Areas	Length of Teaching Experience	Length of English Teaching Experience	Educational Levels of Students	EMI Student Population	EMI Course Design
University B							
T6	F	Communication	> 20 years	3 years	M.A. students	International and Taiwanese students	Program-wide
T7	M	International Studies	> 15 years	> 10 years	Ph. D. & Undergraduate students	International and Taiwanese students	Program-wide
T8	M	International Studies	> 8 years	2 years	Ph. D. students	International and Taiwanese students	Program-wide
T9	M	Education	> 10 years	3 years	M.A. students	Taiwanese	Individual
T10	M	Commerce	7 years	2 years	Undergraduate	International and Taiwanese students	Program-wide
T11	M	Commerce	3 years	3 years	Undergraduate	International and Taiwanese students	Program-wide

Five teachers were recruited from University A and six teachers from University B. One teacher was recruited from the individual EMI courses and five from the program-wide EMI courses. Nine teachers were experienced in teaching content in English, and two teachers were experienced in teaching both English and non-English content. Most had taught content in English for approximately three years. Seven of the teachers held doctoral degrees from the U.S. (T1, T2, T4, T6, T7, T9, and T10), one from France (T3), one from Japan (T8), and two from Germany (T5 and T11). All of the participants were Taiwanese, except for T5 who was a bilingual teacher from Germany and had studied Chinese in Taiwan for over ten years. The teacher participants taught undergraduate Taiwanese students in University A. Those in University B taught both international and Taiwanese students at the undergraduate and graduate levels, except that the majority of T9's students were Taiwanese at the

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graduate level.

Data Collection & Analysis

At least one semi-structured individual interview was conducted with each participant in order to collect data rich in narrative, since narrative has been recognized as a legitimate way of thinking and representation (Connelly & Clandinin, 1990). Each interview lasted approximately ninety minutes, yielding a total of twenty-eight-hours of data. All of the interviews were conducted in Chinese in person. The purpose of the interviews was to collect details regarding demographic information, learning and teaching experiences in Chinese and in English, the challenges in teaching, the educational support given to students, and attitudes to EMI curriculum designs. A follow-up interview was conducted via email or interview depending on the availability of the participants to check the validity of the interviewer's understanding of the participants' responses.

The interviews were recorded, transcribed and reconstructed based on Carspecken's (1996) reconstructive analysis and coded based on Pawan's (2008) framework of linguistic, cultural, social, and conceptual scaffolding. The initial coding scheme was then modified to capture the emergent codes, including the reinterpretation of cultural scaffolding (i.e., the EMI CATs' incorporation of students' multicultural backgrounds in curriculum designs) and a new type of scaffolding, called academic scaffolding (see Conceptual Frameworks). The final coding scheme included linguistic, conceptual, social, cultural, and academic types of scaffolding.

Peer debriefing and member checking were conducted to increase the credibility of this study. The interview protocols, coding schemes, and final reports were reviewed by another qualitative scholar for researcher's bias and problems in logic. The interpretation of the participants' interviews and the use of their quotations in this paper were reviewed by the participants. The researcher adopted an attentive listener's role to take an emic perspective throughout the data collection and analysis processes.

TYPES OF SCAFFOLDING EMPLOYED BY THE EMI CATS

The findings showed that the eleven EMI CATs recognized and

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adopted a multitude of scaffolding approaches to help students learn subject matter in English. They considered teacher factors, student factors, educational goals, and contextual factors when they provided scaffolding practices. Table 2 presents the types of scaffolding provided under each type.

Table 2. CATs' Linguistic, Conceptual, Social, Cultural, and Academic Scaffoldings

Linguistic Scaffolding	Conceptual Scaffolding	Social Scaffolding	Cultural Scaffolding	Academic Scaffolding
Use of the L1	Use of audio-visual aids (e.g., ppt. and movies)	Group work	Use of native culture	Provision of explanations of college life and culture in Taiwan
Vocabulary instruction	Connection of in-class teaching to life/everyday experience	Individual assistance	Use of cultures other than the native one (e.g., "urban education" in the U.S.)	Provision of opportunities to attend international scholars' workshops or lectures
Instruction in reading strategies	Use of analogies	Pairing with international students	Incorporation of students' multicultural backgrounds	Provisions of opportunities to attend international conferences
Identification of errors and provision of corrective feedback (grammar, pronunciation, and writing)	Use of stories	Native English-speaking peer assistance		Provision of opportunities to present in international conferences

Table 2. CATs' Linguistic, Conceptual, Social, Cultural, and Academic Scaffoldings (continued)

Linguistic Scaffolding	Conceptual Scaffolding	Social Scaffolding	Cultural Scaffolding	Academic Scaffolding
Provision of explanations	Use of metaphors	Role assignment		Provision of opportunities of the holding of international conferences
Provision of examples	Use of alliteration in presentations			Provision of explanations of rules of research community
Asking questions	Use of songs			Explicit teaching of general learning strategies
Comprehension checks	Use of themes			
Simplification of language input	Use of comparison and contrast			
Reduction in the number of reading materials	Use of graphic presentation			
Clear directions	Use of a virtual discussion forum			

Linguistic Scaffolding

Regarding linguistic scaffolding, all the CATs would reduce the amount of reading materials, provide examples, pose questions, give explanations, and simplify language input by excluding slang and

difficult words because they recognized their students were non-native speakers of English and novice learners in a specialist field. In addition, they might provide scaffoldings using the L1 or code-switching, not simply because they viewed code-switching as an effective way of instruction, but also because they challenged the ideology of the English-only policy which reinforced English imperialism; in other words, the educational goals were considered while the CATs taught content in English. In particular, all of the CATs in University A still provided L1 materials and code-switched for summary and explanations when they observed that the students were perplexed, despite the English-only policy. They also allowed students to pose questions, answer, and discuss points in their L1, as long as international students were not present. The incorporation of L1 materials and code-switching might be attributed to the teachers' concern about the low levels of the students' proficiency in English. The students' limited English skills often served as a hindrance to them in their learning of content in English, and teachers voiced concern over the reproduction of English imperialism resulting from the overemphasis of English as a lingua franca. Yet the CATs could not code-switch when the majority of the students in the class were international students in University A and University B, but relied on other types of scaffolding, such as constant comprehension checks, providing examples, and posing questions. The CATs thus needed to consider students' proficiency levels and backgrounds, as well as the context in which they were working and their educational goals in order to provide appropriate linguistic scaffolding.

While the CATs provided the above sub-types of linguistic scaffolding, relatively few of them stated that they provided explicit instruction in vocabulary (and pronunciation) and reading, and grammar, pronunciation and writing were taught through corrective feedback. This use of explicit instruction and correction implies that CATs were able to be aware of and articulate their explicit knowledge of English in view of students' learning difficulties in the specialist fields. Regarding vocabulary, the CATs included explicit explanations, teaching of memorization strategies (some with a particular focus on pronunciation), repetition, and reading aloud in their instruction. For instance, T7 emphasized the importance of accurate pronunciation since many Taiwanese students, according to his experience, were misunderstood because of their mispronunciation. As he explained:

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Ex1: One English word I taught was “democracy.” I told them [the college students] that they should remember “1, 2, 3, 4, 5.” For example, the word with the stress on the first syllable is “democrat,” the second “democracy,” the third “democratic,” the fourth “democratizate,” and the fifth “democratization.” I told them that they should remember “1, 2, 3, 4, 5” and practice pronouncing these words. I have to teach them how to remember the words with different stressed syllables because I’ve found that they often mispronounce these words. For instance, “economy”- they pronounced it as “economy” rather than “economy”.

As to reading, the CATs provided background knowledge when it was deemed necessary. According to T5, it was difficult for college students to read philosophical articles if they had never read them before, so he would provide students with background information in his lecture. T3 also expressed the necessity of background knowledge in literature given the narrow range of what the students read, typically Harry Potter novels and *The Lord of the Rings*. That is, the CATs provided background knowledge for their students as they were novice learners in the fields. Additionally, the CATs included different reading strategies, such as previewing, reviewing, and critical reading strategies in the curriculum design. For instance, T9 disapproved of conceptualizing graduate students as “consumers” of knowledge, but instead argued that they were “creators” of knowledge, and thus he asked his students to pose questions on the virtual discussion forums and also bring them to class for discussion, stressing the importance of critical reading. Linguistic and conceptual scaffolding were provided with time being made available for deliberations over establishing virtual discussion forums (conceptual scaffolding) and the face-to-face classroom communication in order to provide students with a secure environment in which they could express and discuss matters in English.

Likewise, the CATs provided corrective feedback on writing assignments in terms of the depth and creativity of content, organization of English writing, rhetoric (“use of synonyms”), grammar, and mechanics when considering students’ learning difficulties in the specialist fields. T7, for instance, identified undergraduate students’ writing problems (e.g., “a space before a comma”) when providing corrective feedback on mechanics, and explained the basic rules of writing with a sound rationale (e.g., “you don’t want distraction”). As T7

explained:

EX2: I gradually came to understand that students had no ideas about the reasons for these mechanical rules. For instance, they often had a space between the last letter of the word and a comma. ... For each student I told them that I'd correct it for them ... I'll tell the students that these basic formats should be accurate so your instructors or readers will not be distracted from reading the good content in your essay. Like in Chinese, will you write in the same way—leaving a space before a comma? No! It's not like what we used to do- to leave a space before writing the name of President Chiang Kai-Shek in order to show our respect.

T7 also linked the source of students' errors to the Chinese style of writing while explaining the basic format of a piece of writing in English, through which a contrastive analysis was done to emphasize important rules for use when writing in English. This kind of explanation also implies the use of a multi-layered array of linguistic scaffolding.

Overall, the CATs provided different types of linguistic scaffolding, sometimes combined with other categories of scaffolding (such as conceptual scaffolding through the provision of an on-line forum in the previous example), as part of a multi-faceted approach that linked the students' L1 and L2 so as to facilitate their understanding and expression of the content in English and to increase their explicit (meta-)knowledge in English and facilitate their performance in English. The decision of the CATs to use a type of linguistic scaffolding depended on their perception of their students' levels of proficiency, cultural backgrounds, and learning difficulties, as well as their language awareness and values attributed to learning English through learning the subject matter. The CATs also negotiated with policy-makers the use of L1 and code-switching in the classroom, particularly when the majority of students were Taiwanese.

Conceptual Scaffolding

In order to facilitate students' academic understanding, the CATs provided different types of conceptual scaffolding, including audio-visual aids, organizational frameworks, and technological support. All the CATs deliberately incorporated audio-visual aids, such as power

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point slides, writing on the blackboard, and handouts into their classes to help students follow their lectures in view of the limited listening abilities of the students. The teachers also used movie clips to motivate students and to provide a context for understanding abstract academic knowledge since the students might also have limited reading abilities and might not be interested in studying their textbooks. Take T3's teaching of translation for instance. She showed excerpt from a movie, *Tower of Babel*, as a warm-up activity to activate students' schemata, to increase their interest in translation, and to understand the meaning behind translation before practicing how to translate. As T3 expressed:

Ex3: I used stories to explain translation theory. For example, in the first hour I asked students to watch the movie *Tower of Babel*. ... I taught them what the movie was about. The students [undergraduate students in University A] were definitely able to discuss the plot. But I also asked them, "How is the plot related to the Tower of Babel? Why is it called the Tower of Babel?" Then, I gave them the biblical story as a translation exercise. ... The "*Tower of Babel*" is in the Bible- It's about why we have so many languages now. Originally, God created Eden, where all human beings spoke the same language. ... After a few generations, human beings gradually wanted to get rid of God's control so they wanted to build up an immense tower to reach heaven, which means that they wanted to take over the status of God. God was really angry so he made human beings disperse all over the world and speak different languages. Afterwards, human beings spoke different languages, which is also the origin of translation. -That is, the basic communication can be done in translation, but we can never translate the meaning of one language exactly as it was . . . which also lets students know the meaning behind translation. Translation is more than simply language exercises.

The showing of a movie combined with the teacher's guided questions in class discussion enabled students to understand the meaning behind translation, suggesting teachers' use of different sub-categories of conceptual scaffolding in one activity.

Likewise, the CATs also provided narrative-based organizational frameworks, such as basing their courses on topics or themes and contextualizing the abstract concepts or principles via stories, analogies,

songs, and metaphors. When teaching politics, T7 used a lot of metaphors from baseball. As he explained:

Ex4: Teachers in content areas should be familiar with the [cultural] background ...which is why I tell my students that baseball is important. ...There are too many metaphors about baseball terms in American politics. Take American politics for instance. There's an old saying, "He [the former president Bush] was born on the first plate, and he thought he had a hit." That means you need to have a BB (Base on Balls, or walk) or a hit in order to get to the first base, but actually he was born on the first base, meaning that he would be at an advantage from the very beginning. ... so baseball and politics are integrated.

The CATs also attempted to provide a context for unfamiliar things by explicitly connecting class materials to students' life experiences by providing ample questions and examples for critical reflection. For example, T7 taught a subject related to the Third World, a subject which was unfamiliar to Taiwanese undergraduates, so he would often use examples in Taiwan or nearby countries by way of analogy or illustration, although Taiwan is not characterized as a Third World country. When T7 explained the concept of "genocide," he asked students to compare the notion of "genocide" with other theme-related vocabulary, such as "holocaust," "ethnic cleansing," and "massacre," giving students an opportunity to activate their schemata via question-raising. He then connected each abstract term to concrete events happening in the world, and furthermore, raised questions to link the concept of "genocide" to the life experiences of the students. As T7 explicated:

Ex5: "Genocide" means the deliberate destruction of ethnic groups. I'd say, "holocaust"- The word, "holocaust"- The Jews say, "What happened to us was too tragic, so the word is only for our use." What happened in Rwanda is also called "genocide". Then, I'd say, what happened in Yugoslavia is called "ethnic cleansing." I'd teach that what happened in Tian'anmen Square is called a "massacre." So what's the difference? "Genocide" is relatively "systematic [destruction], targeting on one political ethnic group." For example, when I'm teaching the concept of "genocide," I'll ask, "Is what China does to Tibet called 'genocide'?" I do not mean killing people

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there, but destroying its culture by marrying Tibetans with Han people? I'd ask, "Does what the USA did to native Americans count as "genocide"? I'll ask them these questions. What about the Nanking Massacre? What we did to the aboriginal people [in Taiwan], was it "genocide"?"

The above episode showcases the multi-layer array of linguistic (i.e., giving examples and posing questions) and conceptual scaffoldings (i.e., analogy or illustration) provided when explaining the concept of a new term in international studies. This scaffolding was used to introduce thematic words and the context in which they were used. The explicit instruction in vocabulary was followed by a series of critical and reflective questions on China and Taiwan to link Third World politics to topics familiar to the Taiwanese students, thus providing a context to enable an understanding of unfamiliar abstract academic jargon.

Only one teacher (T9) provided a virtual discussion forum as a part of the scaffolding to help graduate students understand an assigned reading, presumably because of his expertise in educational technology. He asked students to preview the reading so as to generate questions to be posted on the virtual discussion forum and also brought to class for further discussion. Students were thus taught how to actively engage in reading and were provided with a secure environment to discuss questions in English. For T9, the platform functioned as a bridge between the assigned reading and face-to-face communication.

Only one teacher, T8, aimed at training graduate students' critical analysis through students' generation of graphic organizers that illustrated the relationships among the different factors mentioned in the assigned paper, while his colleagues only assigned their students to summarize the paper. In presentations, each listener was assigned a role to criticize the graphic organizer the student generated (social scaffolding). According to T8, both international and Taiwanese students enjoyed and benefited from this activity. As he expressed,

Ex6: It's novel for them (graduate students in University B) because all the other teachers would ask them to summarize what the paper is about, but I don't think I need you to explain this, since everyone should understand. But how do you use, for instance, I'd ask them to write the argument of the paper in 3 paragraphs- a very short argument explanation. Second, you don't need to tell us the

framework used in the article, but show it to us with a table or any kind of graphic organizer with different levels. – To facilitate their creativity and critical thinking abilities.

Overall, the CATs viewed their students as novice learners in their specialist fields, and so different types of conceptual scaffolding (e.g., audio-visual aides, narrative, analogy, metaphors, graphic organizers, and virtual platforms) were provided as “bridges” to connect students’ in-class experiences to those of their out-of-class experiences. Thus, the CATs considered students’ life experiences, English proficiency levels (e.g., listening abilities and vocabulary), and the learning context when providing conceptual scaffolding.

Social Scaffolding

All of the teacher participants attempted to help their students mediate their learning through different arrangements of social interaction, including individual assistance, group work, pairing with international students, assistance from native English-speaking peers, and role assignment. All of the CATs all provided students with individual assistance after class (in office hours), as part of their teaching obligations. The teachers who believed that knowledge was socially co-constructed or that cooperation or comprehensible input was essential in learning also required students to take part in group presentations and discussions. For example, T4 required students to give a group presentation on a weekly topic and pose questions for class discussion. She reasoned that students could provide much more simplified English input than their teachers so that others also had a better chance of understanding the content (i.e., comprehensible input might have a better chance to become comprehensible intake or output) as students practiced communicating content in English. As she said,

Ex7: I will take an open attitude- let them [college students in University A] read the textbooks and let them choose a topic they like. But in reality, I’ll give them same instruction, like what they need to do when presenting. So in this course, I used materials in English- to let them choose- and after choosing, they had time for a group presentation. Then, they needed to pose questions for the group discussion in class- in each class- After each presentation, they

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needed to pose questions and discuss things with the class together- it's like brainstorming. Or reflecting on the topic- ...

In addition, the CATs expressed concerns over role assignment and grouping methods particularly as one of the aims in the internationalization of higher education is to enhance cross-cultural understanding. The CATs noted that the Taiwanese students formed groups with other Taiwanese students, and the international students formed groups with other international students, regardless of how many international students were present in classes. It was thus rare to find a mix of nationalities in small group work, which was a disadvantage to the students in light of the academic importance of multicultural understanding and critical thinking. That is, the pedagogical intervention of a mixed group explicitly functioned as a social type of scaffolding and implicitly as a cultural one. As T11, who taught law using case study methods in student presentations, explained:

Ex8: Learning laws needs multiple ways of thinking so if we have students from similar backgrounds, the ways that they think will be similar, which will not stimulate different kinds of thought; so if the Taiwanese students can mix with, for instance, Latin American students, then they can bring their different cultural backgrounds and understandings to the analysis of the case. So if we can have this kind of different kinds of thoughts in group discussion, it'll be better, which is also important in learning laws—to learn how to think critically.

According to T11, although the international and Taiwanese students would not form groups with one another, they needed to work in mixed groups in order to facilitate their critical thinking on law not simply because it provided students with an authentic communicative situation, but, more importantly, because the students would bring different perspectives to the analysis of the cases. Thus, the CATs should provide an opportunity of a mixed group for them to participate in the international academic community in class.

Overall, the CATs provided opportunities for students to socially mediate their learning with their peers with reference to the levels of the English proficiency of the students (e.g., simplified English input from student presentations), educational goals (e.g., cross-cultural

understanding) and the context in which they were teaching (e.g., including students around the globe). Furthermore, they understood that they might need to make a deliberate effort to help Taiwanese and international students work together so as to facilitate the development of their ability to think critically and act multiculturally. The use of social scaffolding, thus, transforms the notion of teachers as the only experts; instead, students can also become experts and facilitators through which different ways of thinking in academia can be encouraged.

Cultural Scaffolding

This study showed that the CATs employed not simply the L1 or L2 cultures but also the multicultural backgrounds of international students in order to facilitate students' academic learning and increase their cultural sensitivity and competence. In so doing, the teachers considered students' cultural backgrounds, educational goals, and the context in which they were teaching. According to T9, even if teachers did not teach in English, they might still use textbooks originally written for students in the U.S. in his field, and so the examples in the textbooks might not be familiar to either the Taiwanese or international students. For example, T9 had to explain the rules for US football, so that students could complete statistics exercises. T8 explained why "urban education" is an issue in the U.S., and T7 explained why abortion was an issue in American elections. Thus, because most of the textbooks used were written originally for students in the U.S. or European cultures, the CATs had to provide cultural knowledge as "bridges" linking native and American or European cultures to the culture of the students in these Taiwanese classes.

Yet many of the CATs also provided Taiwanese students with examples from their own cultures in order to enable them to understand the implied cultural notions of terms expressed in English. As T7 expressed,

Ex9: Chancellor Angela Merkel [in Germany] was very pleased about winning the general election again, but she is a very frugal person, so she celebrated her winning by having a cup of potato soup. I told the students, "This is the equivalent of Taiwan's loo¹ ba² png⁷ (in Taiwanese)." ... I don't understand why people like potato soup,

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but it's the equivalent of Taiwan's *loo¹ ba² png⁷*. This way, it's relevant. So you [teachers in content areas] should have some background knowledge of the textbooks, and then find out what might be relevant to Taiwanese students.

T7 used the example of a typical cheap meal in Taiwan, rice with minced meat, as an analogy to another cheap meal, potato soup, to explain the frugal nature of the German chancellor. Although the CATs associated English with simply linguistic properties in the linguistic scaffolding, they still viewed it necessary to learn native, American, and European cultures through learning content in English, suggesting that the meaning of a particular concept derived from an international culture has been reconstituted in a local culture.

In addition to the consideration of the native or American culture, the CATs also incorporated the multicultural backgrounds of their international students into curriculum design at both graduate and undergraduate levels so as to facilitate cross-cultural awareness. Take T6, who has taught communication in Hong Kong, Singapore and Taiwan, as an example. She emphasized the importance of cultural sensitivity in teaching and the importance of incorporating the multicultural backgrounds of international students into curriculum design in each place. As she said,

Ex10: About globalization, I asked them [graduate students in Singapore (in this example)] to study their own countries- study the media in their own countries.- This way, we can understand how different socio-cultural backgrounds might manifest in one media in different countries. ... [so] ..., I'll emphasize the multicultural backgrounds of my students- I'll deliberately integrate their multicultural backgrounds into my curriculum design- What is emphasized is not the medium of English, but their worldviews, their values, and the characteristics of their media policies.

T6 viewed it as pedagogically important not to assume that Western media theory was "universal"; instead, Western media theory could be re-appropriated through the lens of local views. Her sense of the incorporation of cultural sensitivity included critical reconstruction of Western theories in teaching to the recognition of the diversity of cultural beliefs, religions, and lifestyles in general. Such views are consistent

with the provision of culturally responsive teaching in the literature (Gay, 2000). The context in which she was teaching had an impact on the extent to which different cultural backgrounds were incorporated. Students thus become “funds of knowledge” (Hornberger, 2004; Martin-Beltran, 2009), and internationalization through the incorporation of international students’ multicultural backgrounds becomes a way to challenge and to appropriate the Western theories into local cultures (Norton & Kamal, 2003).

Overall, the CATs viewed learning content in English not simply as learning linguistic properties but more importantly as learning about native, American and international cultures with reference to their students’ cultural backgrounds, educational goals, and to the context in which they were teaching. They also re-appropriated Western theories through the lens of local and international cultures. By so doing, teachers reclaimed their agency and authority in the imagined international community of learning, and students became “funds of knowledge” through which links to diverse cultures were provided to connect the diversity of cultures.

Academic Scaffolding

The biggest difference in the findings of Pawan’s (2008) study and the current one is the discovery of academic scaffolding in this study. This study suggests the importance of a cultural resistance approach to Lea and Street’s (2006) discussion of literacies model as academic socialization. This study, situated at the graduate and undergraduate levels of education, found that all the CATs imagined international communities of academia and/or research. Thus the CATs needed to provide explicit teaching of general learning strategies, explicate college cultures, explain the rules of the research community, and engage students in academic activities or venues in order to help their students, as novices in the periphery, to become experts or professionals in the center. Further, they could not do so without considering their students’ backgrounds, educational goals, and socialization in their professional fields. Thus, through engagement and imagination, international communities of practice were established and negotiated (Wenger, 1998). And only one teacher emphasized the importance of alignment so that students could become social activists to combat social inequality.

This study found that the CATs noticed that the university freshmen

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might have made a non-linear transition from high school to college and thus required explicit instruction in college cultures so as to engage in university life. As T4 explained:

Ex11: They [freshmen in University A] had just entered the college from high school, so they don't know that this is the way college students learn. For example, they don't know that the handouts or assigned readings that were distributed are used for studying. So many people ask me, "Why are you giving me the handouts? What should I do with them?" They might not know that those are for studying or previewing at home. This needs some explanation.

The above episode shows a process of non-linear transition from passive learning in high school to active learning in college, and so more integrated study skills should be taught to help students adjust to a new culture of learning. It was especially true if the class included not just Taiwanese students, but also international students who had come to Taiwan upon graduation from high school in their home countries, because it was necessary for international students to understand Taiwanese college cultures and for Taiwanese students to understand international cultures for optimum learning to occur. The CATs then needed to situate student learning in the *multicultural* academic socialization model through which the cultures of different communities were linked.

While many CATs, particularly those who taught undergraduate courses, expressed the intention to help their students to integrate the cultures of different communities, they also noted their difficulties in acculturating their international students in Taiwanese cultures and vice versa. For example, T10 reported that the Taiwanese students might have a better foundation in mathematics than in English, and so they needed more assistance in English rather than in academic foundation, while the international students, most of whom came from Latin America, might be articulate in English but have a weak foundation in mathematics. Further, the international exchange students focused more on their lived experiences of Chinese/Taiwanese cultures and thus might not take as serious an attitude toward learning as their Taiwanese counterparts, rendering a clash, or even a conflict, between the Taiwanese and international students. The CATs expressed that these differences in background were difficult to overcome and thus it might not be possible

to achieve their ideal of a *multicultural* international community of learning or academic socialization model. This understanding further led them to make critical reflections on the drawbacks of the policy regarding the recruitment of international students. As a result, the imagined multicultural community went unrecognized and was in need of negotiation and reconstitution.

In order to assist graduate students to communicate with international scholars, many different venues were created, including requiring graduate students to help with international conferences, to attend international scholars' talks or workshops, and to make presentations in international conferences. For example, T9 encouraged students to write a two-page proposal to submit to an international conference on education in the U.S., since English is an international language in research academia and so it was necessary to learn content in English in order to participate in the research discussion in the field. As he said,

Ex12: My students [graduate students], basically, think that learning [in this content class] is not about learning English anymore, but learning what we should learn in this class—about its content or its profession. ... My principle of teaching this class is, throughout this semester, among the four skills, the most important one is listening. ... As to writing, I don't ask too much, just a two-page paper at the end for their conference presentation...

The above episode showcases the use of a multitude of linguistic, social, conceptual and academic types of scaffolding. It also shows that T9 hoped to assist students to become professionals in the center of the globe via participation in the international community (or conference in this case), in the foreground, within an imagined international community of academia (i.e., educational technology in this case), in the background.

Although most of the CATs acknowledged the role of English as an international medium of communication, few of them challenged its hegemonic role (a) by emphasizing the ecology of languages (i.e., the overemphasis on English might deprive resource and development of other languages) and (b) by emphasizing a multilingual, rather than a monolingual or a bilingual, community. First, few teachers were concerned that failure to teach subject matter in Chinese might cause the

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Chinese academic community to become underdeveloped or deteriorate, which ironically ran counter to the trend of Chinese—a competitive asset—as an emergent international medium of communication in the future. Thus, English was not the only medium of communication in academia, depriving other languages of educational resources and legitimate statuses. Second, the assumption of a bilingual or a monolingual community of academia was challenged. For instance, T11 expressed that Japanese, German, and English could all become legitimate in an international law conference, depending on which type of laws was discussed. Colleagues would thus help translate for him when the talk was given in a language he could not understand. A multilingual community of practice was assumed but downplayed by the enforcement of EMI courses.

Only T4 projected a *critical* and *multicultural* community where students could become social activists who combated social inequalities, such as those of race, gender, and social class. Thus, she would invite students to join a gay parade, rather than simply lecture them to the gay rights in class. For her, the cultivation of cultural literacy was important and done through engagement in social activities, participation which might gradually provide a sense of alignment with which students could identify.

Overall, the CATs encouraged their students to acculturate into their college lives; into the international research community (via English); and into social movements through imagining a community of collegial culture (local versus international), international scholars (via Chinese or English), and multicultural citizens (critical), respectively. The CATs were active in their use of a multitude of social and academic types of scaffolding to help propel students to progress from being novices in the periphery to being professionals in the center of their fields. The provision of pedagogical devices reflected the process of acculturation replete with negotiation, appropriation and recontextualization.

DISCUSSION AND CONCLUSION

Extending Pawan's (2008) study, this paper finds that EMI CATs in higher education in Taiwan recognize that they provide not only a multitude of linguistic, conceptual, social, and cultural types of scaffolding, but also academic ones to their Taiwanese and international students. It also shows that EMI CATs provide these scaffolding practices

while considering language factors (e.g., linguistic knowledge), student factors (e.g., life experiences, proficiency levels of English, background knowledge, and cultural backgrounds), educational goals (e.g., increasing an understanding of subject matter and cultures and facilitating critical thinking), and contextual factors (e.g., the student population and educational policy where one is working and the acculturation in specialist fields). The EMI CATs' consideration of scaffolding practices reflect that they have more than just knowledge of subject matter or general pedagogy, but more importantly they also possess integrated knowledge or pedagogical content knowledge, through which scaffolding can become effective. By so doing, this paper restructures Pawan's (2008) conceptualization of scaffolding as merely a type of pedagogical knowledge by foregrounding the importance of viewing it as that of pedagogical content knowledge and hence emphasizing the dynamics of language factors, student factors, educational goals and contextual factors when EMI CATs offer scaffolding practices. Thus, future research on EMI CATs' knowledge of scaffolding should not be conducted only in relation to pedagogical knowledge, but, more importantly, with relation to Shulman's (1987) pedagogical content knowledge.

In particular, the provision of academic scaffolding foregrounds the importance of a cultural resistance approach to Lea and Street's (2006) academic socialization model of literacies, rather than the consideration of technical and neutralized models of literacies as command of study skills or institutional texts. Though engagement, imagination and alignment help students to move from being novices in the periphery to being professionals in the center (Wenger, 1998), special attention can, and should, be given to the role of EMI CATs' conceptualization of imagined communities in their pedagogical content knowledge of scaffolding. That is, the EMI CATs help students acculturate into their college lives, into the international research community (via English), and into social movements through projecting three types of "community of practice": (a) a community of collegial culture (local versus international), (b) an international research community in a specialist field (via Chinese or English), and (c) a community of critical and multicultural citizens. The use of these three types of imagination, however, reflect a dynamic negotiation process and EMI CATs' worries about the overemphasis on EMI courses in higher education in Taiwan, the ecology of languages and knowledge, and the neglect of multilingual citizens (Norton & Kamal, 2003). The recontextualization of academic scaffolding in the local

context against the context of internationalization via negotiating different types of imagined communities of practice, thus, calls for a culturally responsive framework of scaffolding for EMI courses in higher education in EFL contexts.

In addition to academic socialization, the CATs also pay attention to the incorporation of native, American, and international cultures, re-appropriating them from local and international cultures through projecting an (imagined) international community of learning. The results here support those of the previous studies in that the students' expertise or funds of knowledge should be incorporated into EMI courses (Hornberger, 2004; Martin-Beltran, 2009); that is, the differences in the nature of the cultural background of students are recognized as an important asset and a window through which an understanding of subject can be increased, theories can be tested, and multiple ways of thinking can be facilitated. Yet the CATs also reveal that their students might not take advantage of the international profiles of the courses, and thus mixed grouping is required as social scaffolding, suggesting that students' cultural sensitivity should be cultivated in order to encourage cross-cultural learning.

The above results showing that those who are aware of their own English-learning processes or volunteer to teach content in English might provide more types of linguistic scaffolding are consistent with the emphasis on EMI teachers' flexibility in teaching (Vinke, Snippe, & Jochems, 1998) and language awareness or knowledge (Andrews, 2007; Hou & Tsi, 2005). They also emphasize the importance of teacher agency in the sense that the more freedom that is allowed in code-switching and course choice is allowed, so the more linguistic scaffolding is provided, and less confusion and more self-satisfaction are expressed. In this case, employers should take teachers' language backgrounds or awareness (cognitive), their willingness to teach in English (affective), and their understanding of the EMI curriculum designs (social) into consideration when recruiting EMI content-area teachers. Consciousness-raising activities should be incorporated in task-based instruction in teacher development (Feryok, 2009) given the lack of language awareness and the instrumental nature of English in content-area teaching. The means and methods behind how different types of imagined communities of practice are negotiated in student-teacher interaction deserve further examination through classroom observations and student interviews. Bottom-up curriculum decision making and policy-making are also suggested to nurture teacher agency and address teachers' needs. In order to recognize

teachers' diverse needs and wants, further research on situational and needs analyses (Richards, 2001) is recommended.

In conclusion, this paper argues the importance of examining content-area teachers' English-medium instruction in EFL contexts from a Vygotskian perspective on scaffolding in the era of the internationalization of higher education. It proposes a new framework of pedagogical content knowledge of scaffolding (i.e., linguistic, conceptual, social, cultural, and academic scaffolding) that is more contextually appropriate to the EFL higher education context than Pawan's (2008). Although the limited nature of the data collection might constrain the generalizability of the current study, the above findings and implications are of importance and can be viewed as a basis for future research on the ways in which the internationalization of higher education might have an impact on EMI practice in EFL higher education.

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REFERENCES

- Andrews, S. (2007). *Teacher language awareness*. Cambridge: Cambridge University Press.
- Barton, D., & Tusting, K. (2005). *Beyond communities of practice: Language, power and social context*. Cambridge: Cambridge University Press.
- Carspecken, P. F. (1996). *Critical ethnography in educational research: A theoretical and practical guide*. New York: Routledge.
- Chen, Y. H. (2008). *A research on students' attitudes and perspectives toward English-taught courses in Ming Chuan university*. Unpublished M.A. Thesis, Ming Chuan University, Taipei.
- Chiang, L. C. (2008). The exploration of the internationalization of curriculum in higher education in the global era. *Inservice Education Bulletin*, 25(6), 11-20.
- Chin, C. (2007). Teacher questioning in science classrooms: Approaches that stimulate productive thinking. *Journal of Research in Science Teaching*, 44(6), 815-843.
- Connelly, M. F., & Clandinin, J. D. (1990). Stories of experience and narrative inquiry. *Educational Researcher*, 19 (5), 2-14.
- Cumming-Potvin, W., Renshaw, P., & van Kraayenoord, C. E. (2003). Scaffolding and bilingual shared readings experience: Promoting primary school students' learning and development. *Australian Journal of Language and Literacy*, 26(2), 54-68.
- Cummins, J. (2000). *Language, power, and pedagogy: Bilingual children in the crossfire*. Clevedon, England: Multilingual Matters.
- de Guerrero, M., & Villamil, O. S. (2000). Activating the ZPD: Mutual scaffolding in L2 peer revision. *The Modern Language Journal*, 84, 51-68.
- Feryok, A. (2009). Activity theory, imitation and their roles in teacher development. *Language Teaching Research*, 13(3), 279-299.
- Gay, G. (2000). *Culturally responsive teaching: Theory, research, and practice*. NY: Teachers College Press.
- Gee, J. P. (2001). Identity as an analytic lens for research in education. *Review of Research in Education*, 25, 99-125.
- Gee, J. P. (2004). *Situated language and learning: A critique of traditional schooling*. NY: Routledge.
- Glense, C. (2011). *Becoming qualitative researchers: An introduction* (4th ed.). NY: Longman.
- Guk, I., & Kellogg, D. (2007). The ZPD and whole class teaching: Teacher-led and student-led interactional mediation of tasks. *Language Teaching Research*, 11(3), 281-299.
- Hornberger, M. H. (2004). The continua of biliteracy and the bilingual educator linguistics in practice. *Bilingual Education and Bilingualism*, 7, 155-171.
- Hou, Y. C., & Tsi, S. T. (2005). *Internationalization of college teachers in general education in Taiwan*. Paper presented at the Conference on GE Curriculum and Instruction in the Arts University, Taipei, Taiwan.

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- Huang, S. C. (2006). Reading English for academic purposes: What situational factors may motivate learners to learn? *System*, 34, 371-383.
- Huang, Y. P. (2009). Effectiveness of English-only instruction in postsecondary education in Taiwan: Voices from students. *The Hwa Kang Journal of English Language and Literature*, 15, 123-135.
- Hudson, P. (2009). Learning to teach science using English as the medium of instruction. *Eurasia Journal of Mathematics, Science & Technology Education*, 5(2), 165-170.
- Lantolf, J. P. (2000). Introducing sociocultural theory. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 1-26). New York: Oxford University Press.
- Lantolf, J. P. (2006). Sociocultural theory and L2: State of the art. *Studies in Second Language Acquisition*, 29, 67-109.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Lea, M. R., & Street, B. (2006). The “academic literacies” model: Theory and applications. *Theory into Practice*, 45(4), 368-377.
- Martin-Beltran, M. (2009). Cultivating Space for the Language Boomerang: The Interplay of Two Languages as Academic Resources. *English Teaching: Practice and Critique*, 8(2), 25-53.
- Norton, B., & Kamal, F. (2003). The imagined communities of English language learning in Pakistani schools. *Journal of Language, Identity, and Education*, 2(4), 301-317.
- Nunan, D. (2003). The impact of English as a global language on educational policies and practices in the Asia-Pacific region. *TESOL Quarterly*, 37, 589-613.
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: SAGE.
- Pavlenko, A. (2003). “I never knew I was bilingual”: Reimagining teacher identities in TESOL. *Journal of Language, Identity, and Education*, 2(4), 251-264.
- Pawan, F. (2008). Content-area teachers and scaffolded instruction for English language learners. *Teaching and Teacher Education*, 24, 1450-1462.
- Richards, J. C. (2001). *Curriculum development in language teaching*. Cambridge: Cambridge University Press.
- Saxena, M. (2009). Construction & deconstruction of linguistic otherness: Conflict & cooperative code-switching in (English/) bilingual classrooms. *English Teaching: Practice and Critique*, 8(2), 167-187.
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57, 1-22.
- Snow, M. A. (1998). Trends and issues in content-based instruction. *Annual Review of Applied Linguistics*, 18, 243-267.
- Snow, M. A. & Brinton, D. (1997). *The context-based classroom: Perspectives on integrating language and context*. NY: Longman.
- Thomas, W., & Collier, V. (2002). *A national study of school effectiveness for language minority students' long-term academic achievement*. Santa Cruz, CA, and Washington, DC: Centre for Research on Education, Diversity & Excellence. Retrieved from http://www.crede.ucsc.edu/research/llaa/1.1_final.htmls.

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- Valsiner, J., & van der Veer, R. (2000). *The social mind: Construction of the idea*. Cambridge: Cambridge University Press.
- Van Lier, L. (2008). Agency in the classroom. In J. P. Lantolf & M. E. Poehner (Eds.), *Sociocultural theory and the teaching of second languages* (pp. 163-186). London: Equinox.
- Vinke, A., Snippe, J., & Jochems, W. (1998). English-medium content courses in non-English higher education: A study of lecturer experiences and teaching behaviours. *Teaching in Higher Education*, 3(3), 383-394.
- Vygotsky, L. S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. New York: Cambridge University Press.
- Wertsch, J. V. (1985). *Vygotsky and the social formation of mind*. Cambridge, MA: Harvard University Press.

CORRESPONDENCE

Yi-Ping Huang, Department of English, National Chengchi University, Taipei, Taiwan
E-mail address: yiphuang@nccu.edu.tw