FOLLOWING THE HEART OR THE CROWD: EPISTEMOLOGICAL BELIEFS AND ACTUAL PRACTICES OF IN-SERVICE LANGUAGE TEACHERS IN TAIWAN

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ABSTRACT

The study aims to explore in-service teachers' epistemological beliefs about the following five critical paradigms in second language education and their corresponding practices: (1) inductive/deductive grammar instruction, (2) intensive/extensive reading, (3) looking up unknown words in the dictionary/guessing from context, (4) focusing on accuracy/proficiency, and (5) task-based/test-based learning. The findings reveal that even though in-service teachers possess certain epistemological beliefs that shape the nature of their pedagogical practice, there is an ongoing negotiation between the dominant (e.g., students' test performance) and less-dominant factors involved in their decision making. The teaching practice is both an individual and socially constructed behavior.

Key Words: epistemological beliefs, teacher development, foreign language teaching

INTRODUCTION

A hallmark of education in the first decade of the twenty-first century is the paradigm shift from teaching to learning (Huba & Freed, 2000). This shift values the student-centered approach and the importance of understanding what students think knowledge is and how they come to have it—so-called epistemological beliefs. Understanding learners' epistemological beliefs can facilitate our understanding of learners' perceptions of knowledge and the process of acquiring it. Thus, epistemological belief has become a critical component of education in recent years (Chan & Elliot, 2004; Cheng, Chan, Tang, & Cheng, 2009; Fang, 1996; Hofer, 2001).

In addition, a large body of research has shown that in-service

teachers' epistemological beliefs about knowledge and knowing are likely to have an impact on their decision making about curricula, instruction, and evaluation (Chan & Elliot, 2004; Cheng, Chan, Tang, & Cheng, 2009; Schraw & Olafson, 2002). Even though research on domain-specific beliefs has grown rapidly in recent years (Hofer, 2001), little is known about whether the findings can be applied generally to language learning disciplines. Thus, the current study aims to explore factors and forces that influence in-service teachers' epistemological beliefs about teaching and how these beliefs relate to their decision making and classroom practices in Taiwan.

What are Epistemological Beliefs?

Epistemological beliefs are the assumptions people hold regarding knowledge and learning, and are mediated by learning goals and epistemic curiosity (DeBacker, Crowson, Beesley, Thoma, & Hestevold, 2008; Hofer & Pintrich, 1997, 2002; Kang et al., 2009; Muis, 2007; Richter & Schmid, 2010). They refer to one's beliefs about the nature of knowledge and knowing. Hofer and Pintrich (1997) indicate four major dimensions of epistemological belief: namely, (a) certainty (the conceptual aspects of knowledge—e.g., whether knowledge is an absolute truth or evolving); (b) simplicity (the normative aspects of knowledge—e.g., whether simple truths or complex theory are preferred); (c) source of knowledge (characteristics of knowledge construction—e.g., expert as an authority or the value of personal experience); and (d) justification of knowledge (validating knowledge claims—e.g., the types of evidence acceptable for knowledge claims).

Research findings reveal that epistemological beliefs tend to be independent (Schommer-Aikins & Easter, 2006); that is, a learner may believe that the nature of knowledge is highly multifaceted and interwoven and meanwhile believe that knowledge is fixed. Thus, to have a comprehensive view of one's epistemological beliefs, each belief should be examined independently (Schommer-Aikins & Easter, 2006).

Epistemological Beliefs in Teacher Education

Teachers' epistemological beliefs about knowledge and knowing have long been viewed as having a crucial impact on essentially all aspects of decision making about instruction (Gill, et al., 2004). For

example, according to Roth and Roychoudhury (1994), the default epistemology of Western education is objectivism, in which lectures are the preferred and dominating mode of knowledge delivery to learners. The responsibility of the teachers is to instruct and present 'right' answers and 'right' solutions to problems. Teachers with dualistic conceptions who believe in the absolutist nature of knowledge tend to adopt a traditional approach to instruction by presenting what are believed to be validated facts (Pope & Scott, 1984). Thus, teacher education needs a radical overhaul in order to integrate a constructivist approach to classroom strategies and to explicitly introduce the epistemological approach to future teachers (Windschitl, 2002).

A substantial body of studies has indicated that teachers' teaching and learning conceptions are significantly influenced by their epistemological beliefs (Chan & Elliot, 2004; Cheng, Chan, Tang, & Cheng, 2009; Fang, 1996). Schraw and Olafson (2002) note that teachers' epistemological beliefs are likely to have an impact on teachers' decision making about curriculum, instruction, and assessment. Aypay's (2010) research findings further indicate that significant relationships exist between pre-service teachers' epistemological beliefs and their approaches to teaching. In addition, previous studies (e.g., Schoenfeld, 1992) have shown that teachers' domain-specific epistemological beliefs about the nature of knowledge and knowing affect their ability to change their teaching practice. Thus, helping teachers develop more refined epistemological beliefs may be beneficial in empowering them to enhance their teaching efficacy.

School Culture, Epistemological Beliefs, and Pedagogical Practices

Previous studies have found that teachers' epistemological beliefs about knowledge and learning have an impact on their decision making about curricula, instruction, and evaluation (Schraw, Bendixen, & Dunkle, 2002; Schraw & Olafson, 2002). Several studies have also observed that teachers' own epistemological beliefs about teaching can be influenced by school culture, and this has a significant impact on their adoption of pedagogical practices. "School culture" is defined by Windschitl (2002) as the daily routines in classrooms that are often "situated in a larger context—a tacitly understood framework of norms, expectations, and values that give meaning to all activities occurring in schools" (p. 150). According to Windschitl (2002), these excessively

controlled environments are partly supported by implicit epistemological beliefs in which "knowledge exists outside the learner, disciplines generate immutable truths, and discrete facts and concepts are favored over engagement with big ideas" (p. 151). Thus, rendering right answers instead of in-depth thinking becomes the cultural focus in most classrooms. For example, in McLane and Graziano (1987), even in an informal after-school writing program based on "whole language" instruction and authentic writing tasks, elementary students were overly concerned about their penmanship and spelling. Heckman, in his "Understanding School Culture" (1987), further described the dominant situation of American classrooms, where "most teachers talk most of the time; students sit, listen, do seatwork, and take tests. This occurs for approximately 85% of the 75% of the class time devoted to instruction" (p. 70). Furthermore, several studies have shown that school culture is one of the determining factors for the successful integration of information and communication technology (ICT) in classrooms (Ertmer, 2005; Jacobson et al., 2010; Tondeur, Hermans, van Braak, & Valcke, 2008).

Hofer (2008) pointed out that epistemological beliefs have traditionally been studied and validated in the United States and then applied directly by other countries and cultures. However, little is known about whether those constructs are universally shared in other cultures. As Hofer (2008) stated, "We know little, however, about whether similar relations among constructs would be expected in other cultures, and have reason to suspect the patterns might not be universally applicable, based on differences in fundamental assumptions and beliefs about what it means to know and to learn" (p. 4). Thus, more understanding about cultures, including the education system, authority, values, and beliefs about learning and teaching, would help us better predict and interpret our findings on epistemological beliefs (Hofer, 2008).

In Chai's (2010) study about the relationship between the epistemological and pedagogical beliefs of in-service teachers in Singapore, it was found that in-service teachers adopted pedagogical approach was influenced by their awareness of their students' readiness and their perceived priorities in the school context. In Jacobson et al.'s (2010) study about in-service teachers in Singapore, the results indicated that it was not the teachers' epistemological beliefs (as observed in the United States) but their beliefs about learning that had the most significant impact on their adopted teaching approach. The findings also

revealed that many teachers believed that teacher-directed didactic teaching is more effective in preparing academically low achievers for exams in Singapore. In addition, teachers in the study tended to adopt a mixed pedagogical approach that consisted of both teacher-directed and learner-centered strategies based on their beliefs about learning and also adopted different pedagogical practices in response to the test schedule in school (using a more teacher-centered approach before exam periods and a learner-centered approach during other times).

Purpose of the Study

Although a growing body of research has provided evidence that epistemological beliefs have crucial implications for learning, it has not reached as wide an audience in teaching as it may deserve and is yet to be recognized as an important component in the preparation of curricula (Hofer, 2001). In addition, even though research on domain-specific beliefs has grown rapidly in recent years (Hofer, 2001), we still know very little about whether the findings can be applied generally to language learning disciplines. Furthermore, culture may play a role in how epistemological beliefs have an impact on learning and teaching (Hofer, 2008). However, it is still not clear whether integrating epistemological beliefs into teacher training programs is appropriate in cultures or educational contexts that value rote learning, absolute answers, and high-stakes tests, as in Taiwan, China, Korea, and Japan. This study aims to explore the factors and forces that influence classroom teachers' epistemological beliefs about teaching and how these beliefs relate to in-service teachers' decision making and classroom practice in Taiwan. It focuses on the awareness language teachers have of their epistemological beliefs and how this informs their conceptual teaching goals and strategies. More specifically, the study aims to explore in-service teachers' epistemological beliefs about the following five critical paradigms in second language education and their actual classroom practice: (1) inductive/deductive grammar instruction, (2) intensive/extensive reading, (3) looking up unknown words in the dictionary/guessing from context, (4) focusing on accuracy/proficiency, and (5) task-based/test-based learning. In addition, this study explores the factors other than personal epistemological beliefs that influence in-service teachers' pedagogical decisions.

METHOD

Context

Compulsory education in Taiwan is twelve years, including six years in elementary school (grades 1-6), three years in junior high school (grades 7-9), and three years in senior high school (grades 10-12). Students are assigned to senior high schools and universities primarily based on their performance on the National Senior High School Entrance Exam or the National University Entrance Exam, respectively. 'Teaching to the test' is commonly practiced in schools to prepare students to score high on those tests.

Participants

Since the purpose of the study is to explore how in-service teachers with similar backgrounds could differ in their epistemological beliefs and actual teaching practices, participants of the same gender, of a similar age, and with similar teaching experience and educational backgrounds were selected. Two participants were chosen and invited to participate in the study. Both of them are Taiwanese, speak Chinese as their first language and have received a BA in English and MA in TESOL from the same graduate institute in Taiwan.

Participant K is a thirty-year-old female middle school English teacher (grades 7-9, student age 13-15). She has enjoyed learning English since childhood and finds watching movies the most effective approach to learning English, especially for developing listening skills. Her MA thesis is about how OpenCourseWare resources can facilitate EFL students' vocabulary and listening skills. She has been teaching in a public school for three years and is currently teaching a language program for gifted students.

Participant H is a thirty-two-year-old female high school teacher (grades 10-12, student age 16-18). She reports the most effective English learning activity for her is listening to *Studio Classroom* (the accompanying radio program of the monthly Taiwanese EFL magazine) and shadowing (repeating what is said simultaneously with the program). She has been teaching for four years, including one year in a private high school and three years in her current public high school. Her MA thesis is about the needs analysis of college students learning English for general and specific purposes. Both participants' English proficiency

reaches Internet-based TOEFL 100 or IELTS 6.5 level.

Instruments

To understand how language teachers' epistemological beliefs influence their teaching philosophy and pedagogical decision making, a two-tier Language Teaching Epistemological Beliefs Questionnaire was developed. The questionnaire is composed of five pairs of contradictory paradigms; for each paradigm, two contradictory scenarios were developed, resulting in 10 scenarios through which participants may better understand the paradigms under study. The reason for using a seemingly contradictory approach is to encourage participants to view the issues from a wider perspective and then report their stances on them. The five pairs of teaching paradigms are as follows: (1) inductive/deductive grammar instruction (Erlam, 2003; Haight, Herron, & Cole, 2007; Jean & Simard, 2013; Takimoto, 2008), (2) intensive/extensive reading (Hafiz & Tudor, 1989; Laufer-Dvorkin, 1981; Robb & Susser, 1989), (3) looking up unknown words in the dictionary/guessing from context (Grace, 1998; Knight, 1994), (4) focusing on accuracy/proficiency (Chandler, 2003; Derwing & Rossite, 2003; Housen & Kuiken, 2009), and (5) task-based/test-based learning (Bachman, 2002; Ellis, 2003; Fotos & Ellis, 1991). Appendix presents one sample question for the inductive/deductive teaching approach.

The reason for using a two-tier test format is to allow the researcher to elicit not only the participants' initial judgment, but also their reasoning or underlying understanding behind their judgment. The first tier presents 10 teaching scenarios; respondents have to rate the scenarios in a five-point Likert scale question format depending on their perceptions of the effectiveness of the teaching strategy. Respondents rate each scenario from 1 (very ineffective) to 5 (very effective). For the second tier of the questionnaire, respondents have to write down the reasoning for their responses in the first tier. The second part of the survey is about the respondents' demographic information, including age, gender, teaching experience, educational background, and so on.

Interview

The questionnaire was distributed to the participants through email prior to the interview. Face-to-face interviews were conducted to better

understand the participants' epistemological beliefs and how these have influenced their decision making in teaching. The interviews were conducted in Chinese (the participants' and researcher's first language) to facilitate communication and the precise expression of ideas. The interviews lasted about one hour. The interviews were recorded and data were transcribed for further analysis. Follow-up interviews were scheduled, if necessary. Sample interview questions were as follows:

1. Do you think the school English program or curriculum fits your beliefs about the nature of knowing and language teaching and learning?
2. Do you think your classroom practice fits your beliefs about how to know and acquire language?
3. If there were conflicts between what you believe language learning and teaching should be and your actual teaching practices, how do you cope with the conflicts?

Data Collection and Analysis

The two-tier questionnaire and interview data were analyzed by identifying the themes that emerged from the data. A cross-comparison was made to uncover patterns underlying the data. A conceptual framework for factors identified in the study was then developed and interpreted.

RESULTS

The following paragraphs describe the in-service teachers' epistemological beliefs about the five contradictory paradigms in foreign language education and their actual teaching practice: (1) inductive/deductive in grammar instruction, (2) intensive/extensive reading, (3) looking up unknown words in dictionary/guessing from context, (4) focusing on accuracy/fluency, and (5) task-based/test-based teaching.

Inductive vs. Deductive Grammar Instruction

Regarding using an inductive (bottom-up) or deductive (top-down) approach in teaching grammar, both participants responded in the

first-tier survey that they favor an inductive approach—for example, providing students with sentence examples and inviting them to elicit rules on their own. That is, neither of the participants hold an authoritative epistemological belief about language acquisition in which language rules are presented to students, who just have to accept and learn them. Both participants also believe that it works better for students to explore and discover the language patterns on their own.

However, in the second-tier survey and interview, the participants also pointed out that even though the inductive approach promises several pedagogical benefits—such as allowing students to learn from examples and to sort out the hidden patterns by themselves, leading to longer-lasting learning effects, and providing learners with contexts in which to develop their "language intuition"—several obstacles make it difficult to implement in the classroom. First, time efficiency in terms of preparing students for tests is a big concern. As participant K puts it, presenting students with examples of concordance is "too time consuming. Besides, teachers have to face the pressure of covering all the content in the textbook and preparing students for exams." In addition, the availability of classroom facilities is another concern. In participant K's classroom, there is no computer or projector with which to present the numerous language examples on the screen. Writing all these examples on the board takes too much time. Printing paper copies will not work either since it costs too much to do so. For the above-mentioned reasons, even though ideally she believes the inductive approach works better, it is not commonly practiced in real classrooms due to the limitations of time, facilities, and budget.

As for participant H, even though her responses in the first-tier survey are exactly the same as participant K, she takes a more active role in implementing the inductive approach in her teaching, integrating aspects of epistemological belief in her lesson design by focusing on big ideas instead of details. As she remarks, "I never teach grammar in an isolated manner. I always integrate it in reading instruction. I prepare a worksheet that focuses on reading comprehension of the article in the textbook." She asks students questions and invites them to work in groups to figure out the grammar patterns on their own. If the grammar pattern is complicated, she will type the rules on the worksheet but won't address them explicitly in the class. She engages in constant dialogue with students by asking why or why not. However, participant H sees the value of both approaches. In her opinion, for those who tend to

concentrate on the lectures, the deductive approach can be very efficient because they will "absorb whatever the teacher says." For their counterparts, hands-on learning—seeing examples and coming up with rules—will help them engage with the learning materials and have a more enduring effect. Besides, participant H highlights one other advantage of using an inductive approach: "Sometimes, students will come up with incorrect rules after discussing in groups, and if the teacher gives them the correct rules afterwards, they will have a deeper impression and can achieve longer-lasting learning effects."

In summary, even though both participants share similar epistemological beliefs in the first-tier survey on the induction/deductive approach, their reasoning and actual teaching practices vary wildly due to their perceptions of and reaction to other external factors. In addition, both teachers mentioned "efficiency" with respect to preparing students for tests several times during the interviews, due to the competition and pressure around helping students excel on their high school or college entrance examinations. Even though neither participant holds an epistemological belief that students who learn things quickly (quick learning) are the most successful, they are still concerned with aligning their instruction with the expectations and demands of exams. Thus, the pressure to cover a lot of information in a limited time plays a significant role in their pedagogical decision, especially for participant K.

Intensive or Extensive Reading

Regarding the feasibility of adopting extensive reading in class, the participants consider it both "useful" (participant H) and "very useful" (participant K) in the first-tier survey; both consider intensive reading less useful. As participant H remarks, those who are very good at English tend to engage in extensive reading because the large amount of input can enhance their reading comprehension skills and vocabulary repertoire. But in practice, participant H observes that most students are passive learners and will read only when the reading will be tested. She also observes that vocabulary size and grammar knowledge are related to one's reading comprehension skills; however, to improve one's reading skills, focusing exclusively on vocabulary and grammar is not sufficient. Participant H remarks,

> "Since I am teaching in high school [age 16-18] and most high school students do not often talk to their parents, especially male

students, their parents usually do not have any idea what they are doing in school. But for middle schools [age 13-15], the situation is totally different. Parents complain if the teacher does not focus on the textbooks, asking why students have to learn materials that will not be covered in the tests. Some of them even call 1999 (a government-established telephone hotline for parents to express their concerns and complaints). Some parents are very blind and need to be educated."

Despite the complaints, participant H still insists on teaching in an innovative way and is totally against the fixed structure imposed by schools.

As for sources of learning material, participant H believes that whatever can motivate students to learn—be it textbooks, Internet resources, or other materials—is the most appropriate. She believes that even if Internet resources tend to contain more errors, as long as students find them interesting and are willing to explore them, it can be a good source of learning. She notes, "As long as the students accumulate enough experience and exposure, they will be able to judge and make progress, and it is not a big deal to be exposed to and pick up incorrect language usage because students will sort out the rule after receiving extensive input."

For participant K, even though she does not generally consider intensive reading very helpful, she believes that it is useful for improving grammar skills. As a new teacher, she recalls, she once used a communicative teaching approach to teach reading and it was well received by her students. However, she was shocked that her students' test scores did not reflect their active participation in class and even the best student in her class did not perform well on the test. She thus adjusted her teaching style and focused on detailed grammar rule instruction and sentence translation in reading instead of spending time on Q&A communication. As a consequence, critical thinking and higher-order thinking activities are reduced to a minimum. As she remarks, it is a compromise between ideals and reality. However, participant K was later given the opportunity to teach a language-gifted program in which she now makes much use of extensive reading. Students engage in books they have chosen themselves, orally share reflections in class, and write summaries. Participant K reports that the classes are a success. So, she concludes, implementing extensive reading in regular classes is difficult due to the pressures of teaching to a

schedule and ensuring students perform well in tests, as well as dealing with the large gaps in students' proficiency of English and the problem of how to assess extensive reading. It only works for an "elite" group of students.

Participant K comments that the lack of extensive reading experience explains the overall weak reading proficiency among students of English in Taiwan. As she puts it, "We are stuck with grammar, reading is not for the sake of reading itself." When asked why this is the case, if extensive reading is the ideal teaching approach for developing reading skills, she explains that because quizzes and mid-term exams focus on grammar, students spend more time studying grammar and taking practice tests. But as she states, "Students try hard to memorize grammar rules but forget all of them very soon after the exams." The lack of internalization of rules means that learning outcomes are only temporary. "It is a frustrating situation but difficult to overcome due to the pressures of test performance." She shared her previous experience of trying to introduce extensive reading to students during the summer break. She encouraged students to read books within their own interests, and did not set a requirement on how many pages they needed to finish or test them on their reading. All she did was to provide bonus credits for those who completed the task. Out of thirty students in her class, less than five students (only those who were truly interested in learning English) did the reading. So, her evaluation of the extensive reading project is that to make it effective, it requires a package of course design and lesson planning and to spend time with students in class to guide them, provide a scaffold, and set clear assessment guidelines. But time is something she cannot afford to 'waste'. Aside from those who are already good at English, five hours of English classes per week is not sufficient to help intermediate and lower achievers improve their reading proficiency. This makes her frustrated and skeptical about the value of her teaching.

The results indicate that teachers' personal epistemological beliefs about the source of knowledge (i.e., authentic materials vs. textbooks) may not directly lead to their actual choice of material due to the constraints of class time, learners' language proficiency, and their attitudes toward learning. In addition, their perception of whether or not their students are quick learners also plays a crucial role in their decision on which teaching approach to take. As participant K remarks, only 'elite' learners are suitable for extensive reading. Both teachers' actual classroom practice tends to be strongly influenced by the pressures of

exams (or the collective epistemological belief in the bigger educational contexts). Thus, test performance tends to play the final decisive role in the actual practice of instruction.

Looking up Unknown Words in the Dictionary or Guessing from Context

In the first-tier survey, both participants agree with each other in their belief that looking up unknown words in the dictionary has a positive learning effect, whereas guessing from context has a neutral effect. In the second-tier survey, participant K remarks that there are two criteria that need to be met to ensure the effectiveness of guessing from context. First, students need to be able to understand the context surrounding the unknown words and that guessing from the context does not work for beginners. Second, there needs to be sufficient information provided in the context; that is, the context should not be too short in length, as are the textbook reading articles for grade 7 and 8. As she put it, "Guessing from the context provides learners with some rough ideas about the vocabulary. However, looking up unknown words in the dictionary is an effective way to learn a massive amount of vocabulary in detail."

The findings suggest that a teacher's beliefs about the source of knowledge (i.e., authentic vs. textbook) will have a subsequent impact on their choice of vocabulary acquisition strategy. That is, if the selection of materials is limited to textbooks, then it is likely to limit the practice of guessing from context. In addition, the belief in learning within a short period of time will also limit the adoption of strategies that may not result in an immediate learning outcome. Furthermore, the dictionary approach seems to work better in terms of justifying the vocabulary knowledge.

For participant H, she also commented that guessing from context does not work for lower-proficiency learners because they will feel impatient, get lost easily, and feel like they are "beating around the bush." In addition, for those less motivated learners, they tend to ignore the guessing part and wait until the teacher announces the "correct" meaning of the words. As participant H remarks ironically, "Sometimes, guiding students to guess from the context is like 'self-entertainment' only. Learners' cooperation is the key in the guessing-from-context approach."

The findings suggest that teaching is like dancing the tango: it takes two, and both parties must work together. If teachers' personal epistemological

beliefs do not match their students', the pressures of quick learning usually force teachers to surrender first.

Focusing on Accuracy or Proficiency

Both participants in the study favor communicative teaching over error correction in the two-tier survey. As participant K remarks, "I avoid error correction in speaking and writing classes. If students know the grammar rule, the mistakes they make in communication are just slips of the tongue, so there is no need to correct them. If they don't know the grammar, it is still of no use to correct them because they won't pick up the rule that way." She usually leaves grammar instruction to grammar class and considers error correction to be an interference in communication. She believes that as students master grammar, the mistakes in communication will reduce naturally. For participant K, it is not that accuracy is not important, it is that correcting errors is not useful.

Participant H also remarks on the limitations of error correction: "Students tend to make the same mistakes over and over again regardless of repeated error correction. I guess when they see tons of red marks on their papers, they just jump to the score and that's the end of it." So, she changes her focus onto more global issues, such as organization and content and provides little error correction. She reflects that error correction works only when learners recognize the need to reduce mistakes/errors and are willing to learn to correct them themselves. Participant H also encourages students to explore authentic materials on the Internet and does not worry about the possibility of students being exposed to incorrect language usage. As she remarks, "After the students accumulate enough exposure to the target language, they will figure out by themselves what is right or wrong."

In addition, participant H believes that language is changeable. If a lot of people use incorrect language or grammar, this can gradually become acceptable and even "correct." Sometimes, even the teachers cannot distinguish between what is correct and what is not just by searching on Google, and the frequency of language usage presented on Google needs to be interpreted with caution. The source with the most hits does not necessarily indicate the correct one. However, she also noted, "It does not matter that much what is correct or not. After all, language is dynamic; how can we expect it to be steady?"

The findings suggest that both participants' teaching experiences have made them aware of the limitations of focusing on accuracy in writing instruction because it interferes in communication and does not aid students to achieve their learning outcomes.

Task-based/Test-based Learning

Participant K rated task-based and test-based learning equally useful, whereas participant H considered task-based learning useful and test-based learning neutral in effectiveness. Participant K states that a task-based approach, such as cross-cultural communication, is interesting and can help students internalize the language, whereas a test-based approach is the key to preparing for college entrance examinations, TOIEC, and TOEFL. As she put it, "Becoming familiarized with the test format is the key to acing the test." However, she also stated that "one has to learn the content first before using the practice test, otherwise it will be a waste of time."

Participant H finds visualization an effective way to learn vocabulary, and often uses YouTube videos and small group discussions in her class. She assigns students the task of visualizing new words, using photos to illustrate the meaning, and using Instagram as a platform for post-production (e.g., annotating the spelling and providing a sample sentence), and using the LINE application to submit words to the teacher. She then uses the student-made photo vocabulary slides for lectures, reviews, and tests. She sometimes will swap one class's slides with another's: "Students usually find it very entertaining and hilarious." Regarding a test-based approach, she comments, "I used to hate tests a lot. So, when I became a teacher, I decided not to give students tests, then realized that students would treat English as an easy class and would not even open the textbook. So, I learned to appreciate the value and importance of tests."

The findings reveal that both participants value the complex nature of language and believe that a task-based approach can enhance students' motivation, encourage them to practice using the language, and even promote internalization of knowledge, and lead to enduring learning effects. However, the participants also consider accountability to learning outcomes, demonstrated through students' performance in tests, crucial in their selection of teaching approaches.

DISCUSSION AND CONCLUSION

Overall, Participant H, on the one hand, holds a more liberal and adventurous perspective. She has experienced a stronger collective efficacy—that is, colleagues as a whole who organize and execute the measures necessary to have a positive impact on their students (Mandi, Baker, Chow, Delacruz, & Noelle, 2015)—and this seems to reinforce her personal epistemological beliefs about teaching.

Participant K's teaching practices and decision making, on the other hand, represent multiple perspectives on her epistemological beliefs, and highlight the conflict between her previously existing epistemological beliefs about teaching and her new understanding gained from real-world teaching contexts. She feels a pressing expectation to facilitate quick learning, due to the constant flow of quizzes and tests in her school. She also recognizes the long-term benefits of extensive reading, albeit that the learning outcomes are slow to manifest. She believes in the integral value of extensive reading, which looks at the bigger picture of language usage, but also acknowledges that she cannot afford to ignore the detailed drills for the quizzes and exams in school. Regarding the judgment of her efficacy as a teacher, she wavers between focusing on students' performance in tests, which are highly valued by students, teachers, parents, and even society at large, and taking an idealistic approach that fosters solid development of language proficiency. However, at the macro level of teaching, she believes that one's own inclinations play a humble part in one's decision making process; one needs to align with the school's culture (the norm practice among English teachers), parents' expectations, and even the policy set out by the Ministry of Education. School boards, parents and education authorities are in a better position to help change the teaching/learning climate; as an individual it is just too difficult and too risky to stand out from the crowd. On the other hand, participant K also notes that teachers in other schools have been taking a "non-test-driven" approach and even open their classrooms for observation. She believes that this peer-sharing opportunity could enhance her capabilities in this area and this strengthens her confidence in doing the "right thing" in the future.

When External Epistemological Beliefs Meet Personal Beliefs

A substantial number of studies indicate that there are strong relationships between teachers' beliefs, their instructional approaches,

and the school environment (Brown & Rose, 1995; Chan & Elliott, 2004; Kagan, 1992; Nespor, 1987). However, the findings of the study partially corroborate earlier studies in the way that teachers' own epistemological beliefs about teaching can be contextually influenced by the culture in schools (Chai, 2010; Jacobson et al., 2010), and there may be a relationship between teachers' pedagogical practices and the characteristics of school culture in general (Jacobson et al., 2010). However, teachers' epistemological beliefs may not reflect their instructional approach and the school culture when conflicts exist. When the school culture matches the teachers' epistemological beliefs, less conflict will be experienced and the teachers' epistemological beliefs about teaching will closely represent their pedagogical practices (as in participant H's case). On the other hand, when the school culture does not match their epistemological beliefs, conflicts will occur (as in participant K's case). In most cases, school culture wins eventually.

The findings of this study reveal that personal epistemological beliefs may not be the prime factor in the pedagogical decision making of in-service language teachers in Taiwan. It is, instead, a collective decision made by the epistemological beliefs of the students, parents, colleagues, and even the whole of society. Both participants in the study revealed different degrees of compromise when balancing their own epistemological beliefs with external ones.

One of the most prevalent external influences is the emphasis on assessment and competitiveness in teaching contexts. Teachers often surrender to test scores and favor "quick learning" to ensure immediate short-term performance on tests. In other words, the findings of the study reveal that teachers' personal epistemological beliefs may not be transferred directly to their pedagogical beliefs and teaching practices. Instead, they tend to transform their own epistemological beliefs into "pragmatic" beliefs about teaching.

In addition, participant K's struggle with students' performances in tests and her striving for an efficient way to help students excel in their exams corroborate an earlier study in Singapore that found the teacher-directed didactic approach favorable due to its effectiveness and efficiency in preparing students for important examinations (Jacobson et al., 2010).

Thus, the findings of this study, however, reveal that personal epistemological beliefs may not be the prime factor in the pedagogical decision making of in-service language teachers in Taiwan. It is, instead,

a collective decision made by the epistemological beliefs of the students, parents, other colleagues in the school, and even the whole of society and culture. Both participants in the study revealed different degrees of compromise when balancing their epistemological beliefs with external epistemological beliefs.

Figure 1 illustrates the conceptual complexity of teaching contexts and the interplay of in-service teachers' personal epistemological beliefs, the collective epistemological beliefs of the examination-dominated culture, and influences from parents, students, the school facility, and government screening policies for curricula and textbooks. Teachers differ in their weighting of personal and external epistemological beliefs. Factors such as test performance and time pressure seem to outweigh others within the teaching-to-test educational culture.
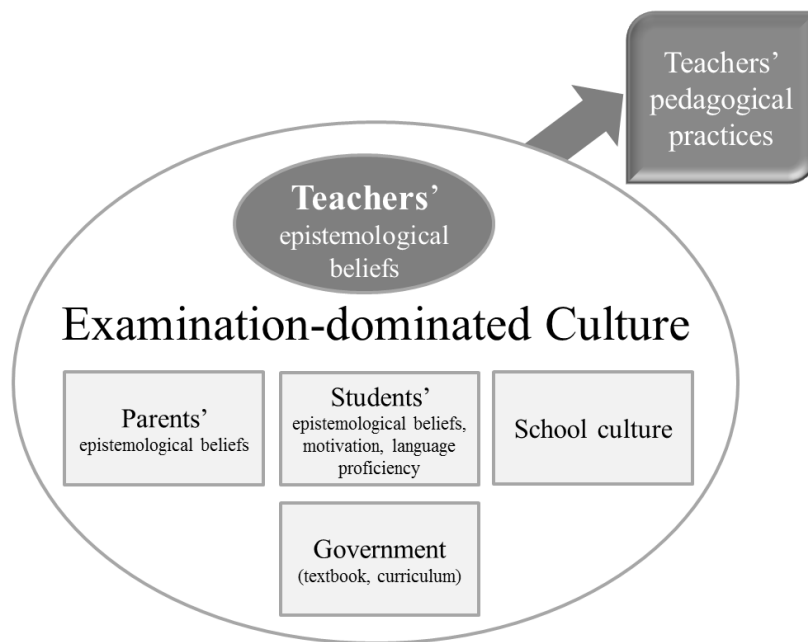
Figure 1. Factors contributing to the in-service teachers' pedagogical practices

Pedagogical Implications

Since inconsistencies are observed between in-service teachers' epistemological beliefs about teaching and their actual teaching practices, it is necessary for teacher education programs to help pre-service teachers become aware of these differences. Education programs should introduce pre-service teachers to real-world scenarios or contexts and encourage them to reflect explicitly on their beliefs and explore ways to address the inconsistencies. By doing so, they may facilitate the development of pre-service teachers' higher-order epistemological beliefs about teaching, and lead to changes and improvements in the teaching/learning process. For in-service teachers, on-the-job training programs could also increase their awareness of the possible discrepancies between their epistemological beliefs and actual practices through observation and discussion. Fostering a professional teacher development community, either online or offline, might also facilitate idea exchanges and brainstorming among teachers in order to aid them in bridging the gap between belief and practice.

Limitations of the Study and Future Research

The current case study only includes two participants. Future research using a quantitative approach (e.g., surveys) could shed new light on the relationships between teachers' epistemological beliefs and their choice of teaching approach. In addition, future research comparing in-service and pre-service teachers could also provide insight on the process of shaping teachers' beliefs and uncover the stages in-service teachers go through as they socialize themselves to particular norms in actual teaching contexts. Furthermore, teacher training that recognizes the influence of external epistemological beliefs on teaching is vital. That is, teaching theoretical and pedagogical approaches may not be enough for the TESOL program. The findings of a longitudinal case study of the complex dynamic of classroom and societal contexts could help students be more realistic about and reflective on the potential challenges in their future teaching endeavors. In addition, an in-depth inquiry into the conflicts between individual teachers' personal epistemological beliefs and external factors in the teaching process could help teachers to recognize their shared responsibility in the fight for their perceived ideal learning culture and environment, rather than relying on

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a higher authority, such as the Ministry of Education, to solve all the systemic issues for them. Furthermore, the current study focuses on exploring in-service teachers' epistemological beliefs and actual practices by using self-reporting methods through surveys and interviews; however, it is possible that there are gaps between teachers' self-reported practices and their actual practices in the classroom. Thus, future research using other techniques such as observation, video recordings of classroom interaction, documented classroom discourse, and syllabus/lesson plan analysis could shed new light on the potential discrepancies between self-reported and actual practices. Finally, future research examining how teaching contexts and school culture influence the enactment of in-service teachers' epistemological beliefs about knowledge, learning, and teaching in diverse cultures could shed new light on how teachers in different cultures and educational systems cope with these conflicts. In addition, comparative studies between countries that value test performance above all (e.g., China, Japan, and Korea) and those that place less emphasis on tests (e.g., the United States, Canada, and the United Kingdom) could contribute to the literature on how assessment may impact teachers' epistemological beliefs and pedagogical practices. In conclusion, the findings of the study indicated that teachers differ in their weighting of personal and external epistemological beliefs. Some factors, such as test scores and time pressure, seem to outweigh others in the teaching-to-test educational culture. As Fang (1996) states, "Rather than simply providing teachers with more theories, educators must help teachers understand how to cope with the complexities of classroom life and how to apply theory within the constraints imposed by those realities" (p. 59). That is, teacher development programs should help pre-service teachers bridge the gap between theories and practice and help them effectively translate their beliefs and theories into classroom settings with their usual pressure and constraints. Further, teacher training is more than filling pre-service teachers with knowledge of the subject, it is about preparing them to cope with the constraints and realities of the classroom and to be able to make changes and have some impact on the educational environment, so that they may eventually make a difference.

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APPENDIX

Sample Two-tier Question for Inductive/Deductive Teaching Approach

The best way to teach grammar rules is through an inductive approach, in which students are presented with language examples of a particular grammar rule and are invited to analyze the examples and come up with their own rules. The teacher's role is to help verify their sorted rule. For example, presenting students with the following language examples is an effective way to teach the rule that when using the prepositional phrase "each of," a singular verb should be used.

EACH OF these different "levels" does not have the same type…
EACH OF the four sections begins and ends on the tonic chord…
EACH OF which is in principle arguable – are compacted into…
EACH OF whose campuses is dominated, as it happens, by a tow…
EACH OF which has a large calyx at the tip)," and the animal…
EACH OF which gives the player a different series of notes…
EACH OF the four secrétaires des finances was given the task…
EACH OF whom is as good as the last battle. This is an anarc…
EACH OF the three novels explores different possible forms…
EACH OF us speaks with his own voice, and though the tone ma…
EACH OF these seems to derive something from the interruptab…

First Tier
Please rate your perception of the effectiveness of this teaching approach
☐Very ineffective   ☐Ineffective   ☐Neutral   ☐Effective
☐Very effective

Second Tier
Please write down your reasons for the above choice.

_____

從心亦或從眾：
台灣英語在職教師之知識信念與採行之教學方式之比較

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本研究旨在探討在職英語教師針對下列五種有關外語教學之知識信念與其相對之教學實務之關係：(1) 歸納法或演繹法文法教學、(2) 精讀或廣泛閱讀教學法、(3) 查字典或從前後情境猜測字義、(4) 著重正確性或流暢性、(5) 任務導向或考試導向教學。研究結果顯示，即使在職教師受特定知識論之影響而採行某些教學策略，其實際教學仍受一些外在主控因素（如學生於測驗上的分數表現）及次控因素（個人知識信念）影響其教學決策。教學行為乃是結合個人與社會兩者共同建構之行為。

關鍵詞：知識信念、教師專業發展、第二外語教學