



An Exploratory Study on Chinese EFL Teachers' Beliefs about Reading and Teaching Reading

Yang Gao

San José State University, the United States

William P. Bintz

Kent State University, the United States

In this study we explored characteristics of Chinese, English as a foreign language (EFL) teachers' beliefs about reading and teaching reading. Specifically, we investigated the relationship of beliefs between reading and teaching reading. Participants included 96 university EFL teachers who were faculty members from three different universities in a large city in Northeast China. We conducted data collection and analysis in an exploratory design through a survey of 10 open-ended questions modified from the Burke Reading Interview (BRI). We then used a quantizing method to code all qualitative data and conducted statistical analysis to describe these data. Findings indicated that three theoretical orientations about reading (behaviorism, cognitivism, and constructivism) were matrixed with three different belief systems (dominant, dual, and multiple belief systems). The matrix indicated a complex belief system about reading and teaching reading among these EFL teachers. Within the matrix, relationships among different beliefs were non-linear and unpredictable. In terms of the constructivist theoretical orientation, findings indicated a statistically significant, but weak, association between teacher stated beliefs about reading and stated beliefs about teaching reading. We discussed the findings based on the research questions and provided implications for EFL teachers.

Keywords: EFL, teacher beliefs, reading and teaching reading, inconsistency, complexity

Introduction

As teachers ourselves, we keep examining if we really practice what we believe. This helps us continually explore the relationship or tension between beliefs and practice. Nespor (1987) argued that teachers' beliefs are affective and narrative in nature and help teachers make their timely classroom decisions. Pajares (1992) also argued that beliefs are predictors of individual behaviors and largely influence teachers' perceptions, judgments and practices. However, not all existing literature confirms the consistency between teacher beliefs and actual practice. Over the past decades, numerous studies have yielded findings of complex relationships between teachers' beliefs and practices (e.g., Borg, 2003, 2006, 2009, 2011; Farrell, 1999; Farrell & Bennis, 2013; Farrell & Lim, 2005; Gao, 2014; Johnson, 1992; Nguyen, 2014).

The lack of consensus in research findings invites scholars to continue studying the related topic. This includes scholars from the field of second language (L2) education or English-as-a-foreign-language (EFL) education (Borg, 2003, 2006; Farrell, 2007). So far, only a few studies have been done on in-service college teachers' beliefs in an EFL university context (Borg, 2009). The majority of these studies

focused on K-12 teachers (e.g., Zheng, 2013a) or learners (e.g., Gao, 2013a), rather than college/university teachers. This gap becomes even more salient in the Chinese EFL context. Scholars (e.g., Gao, 2013a; Wu, 2005) advocated that more studies on college teachers' beliefs and practices in teaching reading, typically in Chinese or Asian EFL context, should be conducted. To address this gap, we conducted a study that asked the following two research questions:

1. What are the characteristics of the Chinese EFL teachers' beliefs about English reading and reading instruction?
2. Are the Chinese EFL teachers' stated beliefs about English reading consistently indicated in their stated beliefs about teaching reading?

Literature Review

Language or Reading Teachers' Beliefs

Defining language or reading teachers' beliefs is complex and difficult. Borg (2001) stated that, "despite its (belief's) popularity, there is as yet no consensus on meaning, and the concept has acquired a rather fuzzy usage" (p. 15). While early scholars did not reach a consensus on defining teacher beliefs, they provided clarification on the origins and classifications of the topic (Gao, 2014). For example, Lortie (1975) proposed that teachers' beliefs may originate either from their personal learning or life experiences. Clark and Peterson (1986) identified teachers' beliefs as one of the three categories in teachers' thought process and are connected with teachers' theories. One prevalent classification of teachers' beliefs is the explicit and implicit beliefs. The former beliefs are what a person can readily articulate (Johnson, 1992) and the latter beliefs are held unconsciously and can be inferred from actions (Argyris & Schön, 1974; Breen et al., 2001). From this perspective, teachers' explicit and implicit beliefs are connected with teachers' conscious and unconscious beliefs. However, this classification of conscious vs. unconscious beliefs is not accepted by all scholars, because some believe consciousness is an inherent attribute of beliefs (Borg, 2011).

Through analyzing the nature of teachers' beliefs, Pajares (1992) summarized teachers' beliefs as "an individual's judgment that can only be inferred from a collective understanding of what human beings say, intend, and do" (p. 316). He further argued that teachers' beliefs are largely connected with their specific, educational beliefs. These educational beliefs can be about multiple constructs including teacher efficacy and specific subjects or disciplines. In terms of the educational beliefs about specific subjects or disciplines, they may include beliefs about reading instruction, the nature of reading, and whole language. Pajares (1992) provided scholars with insights on how studies on teacher beliefs can be conducted or extended. Some researchers then extended their line of inquiry on teacher beliefs in general; others then narrowed down their research topics with specific subjects or disciplines including language education and reading education.

Recently, several scholars in L2 education provided definitions of language teacher beliefs from different perspectives. Barcelos (2006) explained L2 teacher beliefs from the *normative*, *metacognitive*, and *contextual* perspectives. Beliefs were thus defined as opinions or generally inaccurate myths (normative), idiosyncratic knowledge or representations (metacognitive), or ideas interrelated with contexts and experiences of participants (contextual). Borg (2001) defined the L2 teacher beliefs as a kind of evaluative or appraisal propositions that teachers hold unconsciously or consciously as true when teaching. It is often used to characterize the cognitivist structures when teachers make classroom decisions (Meirink et al., 2009). Kalaja and Barcelos (2003) defined beliefs with dynamic, complex, and contradictory attributes. In other words, beliefs are socially and individually constructed, and can be shared, diversified and uniformed. This unique changing feature leads beliefs to form a complex and multilayered system (Kalaja & Barcelos, 2011; Mercer, 2011) and thus makes studies as such difficult to

conduct. Given the fact that reading is interconnected with other language skills including listening, writing and speaking, most of the current studies on reading teachers' beliefs are generally embedded in those studies on language teachers' beliefs.

Theoretical Orientations of Reading

As one of the purposes of the study was to explore teachers' beliefs about reading, we needed to select a theoretical framework of reading theories or orientations first. In this study, DeFord's (1979) Theoretical Orientations to Reading Profile (TORP) was referenced to assess teachers' beliefs and particularly to design a coding rubric for data analysis. This survey consists of 28 items and used a five-point Likert scale to assess teachers' agreement with statements about reading instruction. It aims to investigate three instructional orientations: (a) *phonics*, which emphasizes sound-letter units, with a gradual progression toward words and sentences, (b) *skills*, which focuses on development of sight words, and (c) *whole language*, which aims to get children immersed in meaningful and quality literature and working them down toward smaller language units.

TORP has been widely used in the fields of literacy education and counseling during the last two decades. Kinzer (1988) and Johnson (1992) both conducted similar research among reading or TESL teachers and developed other instruments. Kinzer (1988) divided beliefs into two broad categories: one indicating how the reading process *takes place*, and one noting how the reading process *develops*. The former category includes more theoretical beliefs about the reading process, and the latter entails more instructional practice. However, he further mentioned "these should not be dichotomized, since instructional decision-making may well be based on a synergistic relationship between the two, that is, on a conception of the reading process as well as on a conception of how the process develops" (p. 360). Kinzer further categorized the three ways reading takes place into *text-based*, *reader-based*, and *interactive reading*. Similarly, three explanations indicating how reading develops were mastery of specific skills, holistic language, and differential acquisition. Based on Kinzer (1988), Johnson (1992) used a multi-dimensional TESL theoretical orientation protocol to conduct a study in the same field. The protocol also included two triads of categories in both reading and reading teaching beliefs. The categories are *skill-based*, *rule-based*, and *function-based*, which resemble Kinzer's triads (see Table 1).

TABLE 1
Theoretical Orientations of Reading in the Previous Studies

| | Behaviorism | Cognitivism | Constructivism |
|---------------|-------------|--------------|----------------|
| DeFord, 1978 | Phonics | Skill-based | Whole language |
| Kinzer, 1988 | Text-based | Reader-based | Interactive |
| Johnson, 1992 | Skill-based | Rule-based | Function-based |

While the terms representing categories are different, they indicate three identical, theoretical orientations. *Behaviorism*, also termed behavioral psychology, is a theory of learning positing that all behaviors are acquired through conditioning. *Cognitivism* is a response to the limitations of behaviorism. *Cognitivism* incorporates mental structures and processes into human learning. Cognitivists do not require an outward exhibition of learning but focus more on the internal processes and connections that take place during learning. *Constructivism* is a theory of knowledge that argues that humans generate knowledge and meaning from an interaction between their experiences and their ideas. Therefore, three reading theoretical orientations used in the study are *behaviorism*, *cognitivism*, and *constructivism* (see Table 1).

It is important to note that the term "skill-based" appears in two different orientations, but with different meanings. For Johnson (1992), the term indicated reading as a separate language skill as compared with writing, listening, and speaking. In a behavioristic sense, skill-based means language learners use their reading skills to recognize words or textual patterns. However, the term in the

cognitivist domain, as in DeFord (1979), indicated readers use reading as a skill to comprehend or process information in the text. An analysis of these theoretical orientations of reading helped us map out primary concepts or units that we can use to create the basic categorial variables for our coding rubric. We will elaborate them in the next section.

Research Methods

Sample

Subjects in the study included 96 university-based EFL teachers who were faculty members from three different universities in large city in Northeastern China. An established rapport and initial contact with deans and professors at the selected universities helped researchers identify potential participants. Originally, the number of potential subjects identified was 124; due to some invalid survey answers certain participants' data were not included. A sample size should be neither too large nor too small, for sake of research cost, manageability, and generality (Creswell, 2012). The final sample size (96), was determined by three primary factors: the expense of data collection, the manageability of the study, and the degree of statistical accuracy (e.g., confidence interval).

The 96 teachers in the sample have different years of working experience, ranging from two to thirty years. Teachers of different genders, ages, and races were randomly enrolled. They were either teaching English-major students or non-English-major students. Among the 96 teachers, 55 were from the same university, and 18 and 23 were from the other two universities. Sixty of the total 96 teachers were teaching students majoring in English, whereas the other 36 were teaching non-English-major students. The gender ratio was approximately 2:1, with the female teachers as the majority.

Methodology

Embedded in the design of the study was the process of quantizing, an approach assigning numerical (nominal or ordinal) values to data conceived as non-numerical (see Figure 1). Quantizing refers to the numerical translation, transformation, or conversion of qualitative data (e.g., Boyatzis, 1998; Greene, 2007; Onwuegbuzie & Teddlie, 2003; Teddlie & Tashakkori, 2006). The non-numerical or qualitative data in the quantizing process are typically text excerpts or segments from written transcripts or field notes produced from interviews or participant observations (Emerson, Fretz & Shaw, 1995; Poland, Tupker, & Breland, 2002). In order to facilitate the process, multiple methods are used, including a variation of content, constant comparison, or domain analysis (e.g., Charmaz, 2006; Hsieh & Shannon, 2005; Spradley, 1979), in conjunction with a priori coding rubric.



Figure 1. Quantizing process.

Sandelowski, Voils, and Knalf (2009) stated that “quantizing is not confined to mixed methods research, nor does mixed methods research necessarily entail quantizing” (p. 3). Due to different epistemological schools or paradigm constraints, researchers differ in their opinions on whether quantizing is a component or sub-category of mixed-methods designs. LeCompte and Schensul (1999) highlighted ethnographers' preference in using quantizing in their field; however, opponents from other fields often criticize the failure of the method to distinguish the quantitative paradigm from the qualitative paradigm. The prevailing debate about the different paradigms has been constantly mentioned in mixed-

methods researchers' works (e.g., Greene, 2007; Plano Clark & Creswell, 2008; Tashakkori & Teddlie, 2003).

In this study, the quantizing process was used to explore the relationship between teacher beliefs about reading and beliefs about teaching reading. All data were collected from open-ended question surveys, which presented the teachers' responses in a qualitative form. Then, the qualitative data were quantized in a numeric, quantitative form to confirm or evaluate the relationship (see Figure 1).

Data Collection and Analysis

A survey of 10 open-ended questions modified from BRI was used to collect data on the participants' beliefs about reading and teaching reading. BRI was primarily developed to examine how a reader's beliefs about readers and reading can affect the reading strategies s/he chooses from a metalinguistic perspective (Goodman, Watson, & Burke, 2005). We used BRI instead of other instruments for the following reasons. First, BRI is primarily a tool to solicit rich and flexible qualitative information from the participants. Compared to structured multiple-choice questions, BRI provides more flexibility and room to answer what participants truly believe and may yield richer information than a typical structured survey. Second, studies using BRI found that teachers often relate what they believe about reading to the models of reading instruction they used in actual classrooms (Goodman, Watson, & Burke, 2005; Harste & Burke, 1977). Those studies provided us with insights that BRI should be a fit instrument for our study.

We then modified the ten open-ended questions in BRI. Five of the questions were used to solicit teachers' beliefs about reading, and the other five questions were used to get their stated beliefs about teaching reading. Revision of the open-ended questions for this study makes the instrument fit for the research design, paradigms, and purposes. The validity of the survey instrument has already been confirmed in the existing literature (e.g., Goodman, Watson, & Burke, 2005; Harste & Burke, 1977; Squires, 2001). In addition, we also member-checked its validity through a few professionals in our department.

Defining Categorical Variables

After collecting the data, we created categorical variables to analyze the data. Categorical variables, as the name implies, are defined as variables that consist of a set of categories. Generally, there are three major types of categorical variables: nominal, ordinal, and interval (Creswell, 2012). In total, nine categorical nominal variables within three sets were defined in this study. Set 1 consists of three variables on teachers' beliefs of English reading models: text-based, comprehension-based, and interactive approaches. Set 2 consists of three variables on teachers' beliefs of English-reading teaching approaches: rote teaching-based, comprehension-based, and interactive approaches. Set 3 is three categorical variables representing teachers' theoretical orientations indicated in the adapted TORP: behaviorism, cognitivism, and constructivism. We then named each variable in each set with a code or number, for the sake of quantitative analysis. For example, the text-based reading belief in Set 1 is marked as 1, comprehension-based teaching belief is marked as 2 in Set 2, and constructivism theory is marked as 3 in Set 3 (see Table 2).

TABLE 2
Categorical Variable Sets in the Study

| | Reading Survey | Teaching Survey | Adapted TORP |
|----------------|-------------------|-------------------------|--------------------|
| Variable Set 1 | Text-based - 1 | Rote teaching-based - 1 | Behaviorism - 1 |
| Variable Set 2 | Meaning-based - 2 | Comprehension-based -2 | Cognitivism - 2 |
| Variable Set 3 | Function-based -3 | Interactive - 3 | Constructivism - 3 |

Coding Process

Generally, coding process consisted of three stages for analyzing the data (see Figure 2). *Pre-coding* refers to the creation of a coding rubric based on an adapted version of the TORP. *In-coding* indicates the primary process of coding, in which the technique of quantizing was used. *Post-coding* refers to the statistical analysis stage via SPSS software; it involved examining the in/consistency between two types of stated beliefs: reading beliefs and teaching beliefs (see Figure 2).

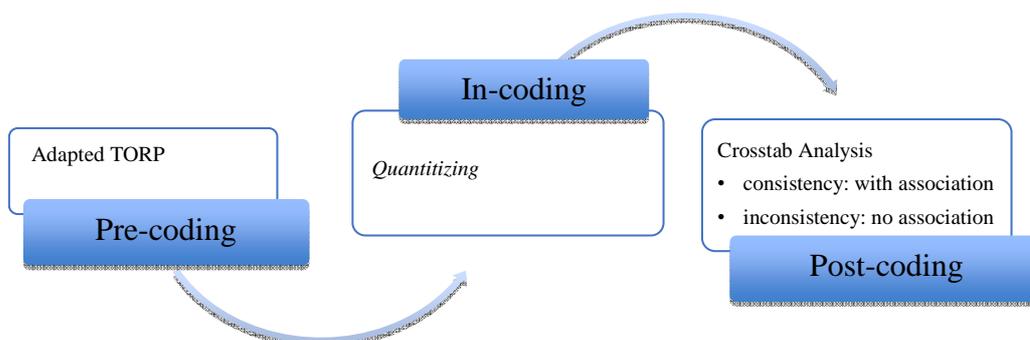


Figure 2. Coding process in the quantitative design.

We then chose the statistical method based on the research purpose and questions. Because the purpose of this analysis was to correctly predict the consistency or inconsistency between the teachers' stated beliefs between reading and teaching reading, cross tabulation (cross-tabs) analysis was used. Therefore, if the codes that appeared in the reading beliefs matched those in teaching beliefs, it shows consistency between reading beliefs and teaching beliefs. That accounts for the basic principle of cross-tab analysis.

It is important to note that one challenge in coding the stated belief excerpts is that some instructional techniques or foci are not mutually exclusive to each other (Diller, 1978; Johnson, 1992; Stern, 1983). Swaffar, Arens, and Morgan (1982) found that rather than using separate, individual teaching methodologies, teachers tend to share a pool of language-teaching methodologies that informs their actual practices. Therefore, they suggest that defining second language teachers' actual practices should not focus on solely the individual methodologies but rather on their frequency of using the methodologies.

To assess the difference in frequencies in reading beliefs versus teaching beliefs, we reported Chi-Square statistics, which accounted for the different count data in each category and examined the distribution across the 2*2 contingency table. Statistics indicated by the Chi-Square analysis indicate whether or not differences between variables are independent from chance. In the study, it indicated whether there were significant differences in frequencies of teaching beliefs between teachers who held a specific kind of reading beliefs and those who did not hold such reading beliefs. If there were significant differences, it implied that reading beliefs and teaching beliefs in the theoretical orientation would be independent from each other, which then indicated no association between reading beliefs and teaching beliefs.

Findings

We described the findings of the study in connection with the three research questions. Three theoretical orientations, i.e., behaviorism, cognitivism, and constructivism, were reported to coexist in Chinese EFL teachers' belief systems. In addition, three distinct reading belief systems were identified: dominant, dual, and multiple belief systems. Specifically, a dominant belief system represents only one theoretical orientation. It resembles what Borg (2003, 2006, 2009) terms as a core belief. A dual belief

system stands for the mixture of two theoretical orientations. A matrix with three pairs of dual theoretical orientations was used in the study: behaviorism and cognitivism (1 & 2); cognitivism and constructivism (2 & 3); and behaviorism and constructivism (1 & 3). A multiple belief system then includes all the three orientations. We then provided descriptive statistical analysis for the three specific belief systems and our findings indicated an overall complex Chinese EFL teachers' belief system (see Table 3).

First, multiple orientations coexisted in the participants' belief systems. Instead of holding just a single, unique orientation, most teachers held diverse and multiple orientations. For example, teachers with a dominant reading belief system occupied only 29.3% of the sample and the other teachers with dual and multiple reading belief systems accounted for 38.8% and 11.1% of the whole sample respectively. This is also true for the teaching belief systems. Teachers with dual and multiple teaching belief systems accounted for 29.9% and 10.3% of the sample and teachers with a dominant belief system took up 37.8% of the whole sample.

The co-existence of diverse and multiple orientations was also a feature within each individual belief system. For example, teachers holding a dual teaching belief system occupied 29.9% of the entire sample. To be more specific, teachers holding both behaviorist and constructivist reading beliefs accounted for 14.0% of the participants. Teachers holding both behaviorist and cognitivist teaching beliefs made up 12.2% of the study sample, while teachers with both cognitivist and constructivist reading beliefs made up less than 4%. Teachers holding a multiple belief system which included all three theoretical orientations accounted for 10.3% of all participants (see Table 3).

TABLE 3
Basic Descriptive Statistics of the Belief Matrix

| Theoretical Orientations | | Reading Beliefs | | Teaching Beliefs | |
|--------------------------|---------|-----------------|---------|------------------|---------|
| Type | Rep.# | Frequency | Percent | Frequency | Percent |
| Dominant | 1 | 88 | 18.1 | 95 | 19.6 |
| Dual | 1,2 | 85 | 17.5 | 59 | 12.2 |
| Multiple | 1,2,3 | 54 | 11.1 | 50 | 10.3 |
| Dual | 1,3 | 74 | 15.3 | 68 | 14.0 |
| Dominant | 2 | 36 | 7.3 | 31 | 6.4 |
| Dual | 2,3 | 29 | 6.0 | 18 | 3.7 |
| Dominant | 3 | 19 | 3.9 | 57 | 11.8 |
| | Missing | 101 | 20.8 | 107 | 22.0 |
| | Total | 485 | 100.0 | 485 | 100.0 |

Note. a. 1: Behaviorism; 2: Cognitivism; 3: Constructivism

b. Dominant: single theoretical orientation; Dual: two theoretical orientations; Multiple: all three theoretical orientations

In addition to the complex co-existence of different theoretical orientations, findings indicated that relationships among different beliefs were non-linear and unpredictable. For example, one unpredictability occurred in theoretical orientations. Specifically, statistical percentages of a certain belief system did not necessarily indicate similar percentages of the belief system in teaching, and vice versa. Table 4 illustrates how unpredictability was presented as another major characteristic in Chinese EFL teacher's belief system.

Specifically, the largest percentage in reading beliefs was the dual belief system (38.8%), whereas the largest percentage in teaching reading beliefs was the single, behavioristic belief system (37.8%). Likewise, the second largest percentage in reading beliefs was the dominant belief system (29.3%),

whereas the second largest percentage in teaching beliefs was not the dominant but the dual belief system (29.9%). It was only the multiple belief system that showed a consistency between its reading belief percentage and its teaching belief percentage.

TABLE 4
Condensed Descriptive Statistics of the Matrix

| | Reading Beliefs | Teaching Beliefs |
|----------|-----------------|------------------|
| Dominant | 143 (29.3%) | 183 (37.8%) |
| Dual | 188 (38.8%) | 135 (29.9%) |
| Multiple | 54 (11.1%) | 50 (10.3%) |

We also described statistical results that indicated inconsistencies between teachers' stated reading beliefs and their stated beliefs on teaching reading. In terms of the behavioristic and the cognitivist theoretical orientations, teachers' reading beliefs were not associated or consistent with their teaching beliefs. However, as for the constructivist orientation, there was more consistency between teachers' reading beliefs and their teaching beliefs and a slight association between the two beliefs systems was indicated (see Table 5).

TABLE 5
Cross Tabulation of Constructivist Reading/Teaching Orientations

| | | T3 | |
|-------|---------|----------------------|---------|
| | | Absent | Present |
| R3 | Absent | Count 114 | 98 |
| | | % within R3 53.8% | 46.2% |
| | Present | Count 72 | 104 |
| | | % within R3 40.9% | 59.1% |
| Total | | Count 186 | 202 |
| | | % within R3 47.9% | 52.1% |

Note. a. $\chi^2(df) = 6.377(1), p = .012, \Phi = .060$

b. R3 = constructivist reading beliefs; T3 = constructivist teaching beliefs

The Chi-Square analysis in Table 5 indicated that there was a significant association between constructivist teaching beliefs and constructivist reading beliefs ($\chi^2(df = 1) = 6.377, p = .012$). To be more specific, among those teachers who held constructivist reading beliefs, about 59% also held constructivist teaching beliefs. Similarly, among teachers who did not hold constructivist reading beliefs, about 54% did not hold constructivist teaching beliefs either. However, statistical result only indicated a weak association between reading beliefs and teaching beliefs in the constructivist orientation ($\Phi = .060$).

Specifically, a classroom led under a constructivist orientation shows marked differences from a behavioristic or cognitivist instruction classroom. A constructivist teacher prefers to incorporate ongoing experiences into student learning by focusing on the negotiation and construction of meaning among small groups and individuals (Lantolf, 2000). When it comes to reading and reading instruction, constructionist teachers believe that reading is about constructing and discussing meanings of the text, and that instruction should focus on how to encourage students to read, create meaning, and learn by peer discussion (Cambria & Guthrie, 2010). Reading should not be only about language units, but also about appreciating what you read (Wilson & Yang, 2007).

Discussion

In this section, we discuss our findings of the study based on two primary research questions. The first question investigated the characteristics of the Chinese EFL teachers' stated beliefs about English reading

and reading instruction. Findings indicated that complexity was the primary feature of the belief system. Specifically, three major theoretical orientations (behaviorism, cognitivism, and constructivism) were matrixed with three types of belief systems, or sub-beliefs (dominant, dual, and multiple beliefs). This multi-layered matrix made the belief system complex. Under the complex matrix, quantitative findings of the study further indicated that there were more complex relationships among beliefs within a specific theoretical orientation and across different orientations. Discussion on only one research question may not provide a holistic picture for the characteristics of the belief system. Therefore, some of these complex relationships within the belief system were explained through discussions on research question two as well.

In this study instead of holding a single, unique orientation, most teachers surveyed in the study indicated multiple and diverse reading and teaching orientations. Multiple orientations made the belief system complex. Quantitative findings indicated that, no matter in reading beliefs or teaching reading beliefs, any orientation was different from the others in its percentage. There was no even distribution among the three reading belief systems or theoretical orientations. For example, teachers with a dominant, constructivist reading orientation accounted for only 3.9%, whereas teachers holding a dominant, behavioristic reading orientation (the most common in the study) accounted for only 18.1%. Another example is teachers holding a dual reading belief system accounted for 38.8 % of the whole sample for reading beliefs, whereas teachers holding a multiple reading belief system accounted for only 11.1%. In addition to the complex co-existence of different theoretical orientations, findings of the study indicated that relationships among different beliefs were non-linear and unpredictable. Specifically, statistical percentages of a certain belief system did not necessarily indicate similar percentages of the belief system in teaching, and vice versa. For example, the largest percentage in reading beliefs was the dual belief system (38.8%), whereas the largest percentage in teaching reading beliefs was the single, behavioristic belief system (37.8%).

The non-linear, unpredictable relationship then made the participants' teacher belief systems even more complex. This finding was similar to study findings regarding teachers' stated beliefs about teaching reading (Pajares, 1992; Phipps & Borg, 2009; Skott, 2001). By joining the existing literature, we also provided hypothetical, empirical, and theoretical explanations for this complex phenomenon.

Some studies have offered one hypothesis from the perspective of teacher reflection. For example, Gatbonton (2008) found that novice or inexperienced teachers were less likely to reflect on their instructions, as they might spend more time planning or designing lesson plans. In addition, Farrell (1999) hypothesized that the varied beliefs about reading among different teachers might also be related to the frequency or quality of the teachers' reflections. While the study was not able to explore how much reflection each teacher had made through survey data and classroom observations, it will present why reflection is important in solving the tensions between beliefs and practices in the last section of the chapter.

Moving beyond the hypotheses, scholars proposed different theories to explain the dynamic, unpredictable nature of belief systems. For example, the theory of action (e.g., Li, 2013) and chaos theory (e.g., Zheng, 2013b) are both attempts to account for why a belief system is dynamic and complex. For example, Li (2013), from the theory-of-action perspective, found that "no strict one-to-one correspondence" but a complex relationship existed between beliefs and practices (p. 175). The theory-of-action perspective links humans' thoughts with their actions, and indicates that humans' behaviors respond to context. Contextual influence is thus key to explaining the complex relationships found in both that and the current research.

Zheng (2013a), from the chaos theory perspective, used a case study in a Chinese secondary school to explore features of teacher belief systems and how different types of beliefs interacted to inform teacher practice. The chaos theory is a great fit to study systems, teachers' belief systems included, that are "produced by a set of components that interact in particular ways to produce some overall state or form at a particular point in time" (Larsen-Freeman & Cameron, 2008, p. 26). Zheng's study confirmed the complex, non-linear features of the belief system and suggested an eclectic approach including ideas from

several perspectives as a way to ease the tensions between teachers' beliefs and practices. Findings of the present study, particularly the diversity in practices, held with that idea.

A final finding in this study regarding teacher's stated beliefs was that while the largest group of teachers held a behavioristic belief, the percentage of teachers holding a dominant constructivist orientation was larger than that of the teachers holding the dominant cognitivist orientation. Previous studies (e.g., Johnson, 1992; Kirkgoz, 2008) found that the temporary innovations in language teaching affect teachers to form their dominant beliefs. For example, Johnson (1992) found that the dominance of the function-based theoretical orientation at the time when she was doing the research represented the overwhelming popularity of the approach among ESL teachers in her study. The recent push to implement constructivist practices in education reform (Henson, 2015) may account for part of that philosophies dominance.

The second research question investigated whether Chinese EFL teachers' stated beliefs about English reading were consistently indicated in their stated beliefs about teaching reading. Quantitative findings from this study indicated that there was a statistically significant association between reading beliefs and teaching beliefs only in the constructivist orientation ($p < .05$). However, the association was not statistically strong ($\phi = .060$, $p < .05$). On the other hand, there was no statistical association between reading beliefs and teaching beliefs in neither behavioristic nor cognitivist orientations. The inconsistent, non-linear relationships between reading beliefs and teaching reading beliefs made the belief system even more complex.

One reasonable explanation for the consistency between reading beliefs and teaching beliefs in one orientation is that constructivist theoretical orientation is the most updated theoretical orientation of the three; that is, it has been the subject of the most frequent and current research. Through comparing critical features of the three theoretical orientations, Ertmer and Newby (2013) mapped out how theoretical orientation developed from the behaviorism (around 1950) to the cognitivism (in late 1950s), and then to the constructivism (around 1990s). Compared to behaviorism and cognitivism, constructivism is relatively a newer and fresher theoretical orientation and focuses more on how learners construct the meaning through their own experiences. As the most advanced orientation, teachers who read about constructivism or were trained in it had a better and fresher understanding. This fresher experience with constructivism may empower teachers to try new teaching methods derived from that theoretical orientation. Some teacher training programs even advocated for methodological innovation by putting the updated orientation into practice in their own classes.

Previous studies (e.g., Johnson, 1992; Kirkgoz, 2008) found that temporary innovations in language teaching affect teachers formations of dominant beliefs. Temporary innovation refers to the methodological innovation in reading instruction derived from an emerging theory at a specific time. For example, when constructivist theory emerged, a lot of new instructional methods were developed at the same time including communicative language learning, task-based learning, and cooperative language learning. Also, some approaches that had been developed even in behavioristic and cognitivist orientations, may also be redefined in a constructivist way. As mentioned earlier in the study, teachers used the same instructional approach may have different theoretical orientations. It depends on how teachers would like to use the approach and what kinds of guiding principles are behind the approach. For example, a task-based learning approach can be either behavioristic or constructivist. In this study, if a teacher gave a student a task to repeat reading a certain reading text as a way to improve his/her reading fluency, he/she used a behavioristic approach. However, if a teacher gave a student a task to role play a story by showing how he/she understands the text, he/she used a constructivist approach. No matter whether it was a newly developed approach or a redefined approach, teachers deliberated to align their beliefs with their practices in temporary innovation era.

Another reasonable explanation for the consistency between reading beliefs and teaching beliefs in teachers with the constructivist viewpoint is that those teachers favored and truly believed in the constructivist theoretical orientation. Almarza (1996) found that student teachers at the University of London were taught a specific teaching method during their practicum. However, unless they truly

believed in the method, they would not stick to it for long. In other words, only when teachers truly believed in a method would they keep using it. Almarza's findings provide insight in explaining why teachers in the current study had consistent reading beliefs and teaching beliefs in the constructivist theoretical orientation, but inconsistency in the other two orientations. While their responses in the survey indicated more behavioristic and cognitivist beliefs, they might not truly believe that teaching reading in behavioristic and cognitivist orientations would be more effective than teaching reading in a constructivist orientation.

Implications for EFL Teachers

One of the primary findings of the current study indicated there were inconsistencies between teacher beliefs and proposed practices. The findings provide insights for future studies that would concern how these inconsistencies might be caused by factors including experiences and classroom contexts. Learning and teaching do not occur in a vacuum, but instead are shaped by the environment and the people around us. Vygotsky (1978) defined the ZPD as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers" (p. 86). He conceptualized the ZPD to explain how group or paired learning when combining certain ability levels can be more effective than students learning on their own. Specifically, just as students would benefit from interaction and communication with their teachers and peers, teachers need the same. Through interaction and communication with peers, teachers may be prompted to reflect on their actual practices, share reflections with each other, and think together about what instructional practices make teaching effective (Gao, 2013b; Joyes & Chen, 2006). While it may be abrupt or biased to assume that novice teachers are less capable than experienced teachers in their teaching performance, it is suggested that novice teachers talk more and reflect with experienced teachers (Peterson & Williams, 1998). Vygotsky's ZPD (1978) highlighted the important and necessary process that a novice learner needs to go through to learn from an expert. Through interaction with peers, teachers can learn from their peers who have more experience in the field of teaching. Peer talk may help teachers think about how to improve their current teaching and acquire new knowledge. In other words, what teachers are able to do together through discussion today, they will be able to do through practice by themselves tomorrow. Peer talk and reflection may provide ways to ease the tension between teachers' beliefs and proposed practices (Li, 2010).

Conclusion

The present study indicated that complexity was the primary feature of the Chinese EFL teachers' belief system. Quantitative findings from this study indicated that there was significant association between reading beliefs and teaching beliefs only in the constructivist orientation, whereas there was no statistical association between reading beliefs and teaching beliefs in neither behavioristic nor cognitivist orientations. By joining the existing literature, we discussed findings of the study based on two research questions and provided different, possible explanations for this complex phenomenon. Finally, we offered implications for teachers.

A few limitations occurred in the study. For example, one limitation is the convenience sampling. The convenience sampling used in quantitative studies may affect generalization to the entire population (Creswell, 2012). In this study, the sample largely represented the Chinese EFL teachers who were working at the universities in a typical Northeastern city in China during the time of the study, but not the entire body of Chinese EFL teachers. Another limitation may be from the methods used for collecting and analyzing the qualitative data. The coding process of the qualitative data in this study may be involved

with certain biases. For example, while we referred to the literature to classify the three orientations, we still found certain blurred areas between each two orientations. These blurred areas made the coding of the qualitative data difficult and undoubtedly included certain subjectivities. With the data analysis software or applications (e.g., NVivo 12) being widely used and developed, we would suggest researchers in the future improving the design and methodology of the current study and making contributions to the field.

Authors

Yang Gao is a lecturer in the Department of Linguistics and Language Development at San José State University (SJSU) in the United States. At SJSU, he also teaches courses for the Department of Computer Engineering. His current research interests include EFL teacher beliefs and practice, sociolinguistics, and EAP/ESP teaching pedagogy. His published refereed journal articles in *Educational Policy*, *Journal of English as an International Language*, *Reading Improvement*, and *the Ohio Reading Teacher*. He is also a reviewer for journals including the *MEXTESOL*. His email address is yang.gao01@sjsu.edu.

William P. Bintz is Professor of Literacy Education in the School of Teaching, Learning, and Curriculum Studies at Kent State University in the United States. At Kent State, he teaches graduate courses in reading education and advises graduate students' dissertations. His research interests include using award-winning literature to teach across the curriculum K-12, collaborative teacher research, and reading comprehension assessment. He has published numerous articles and book chapters in leading literacy journals such as *The Reading Teacher*, *Language Arts*, *Journal of Adolescent and Adult Literacy*, and *Middle School Journal*. His email address is wbintz@kent.edu.

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