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Epistemological beliefs and conceptions about language teaching and learning: a study of secondary school non-native learners and teachers of Mandarin Chinese in Zambia

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Abstract

In recent years, the demand for the acquisition of Mandarin Chinese language is in full swing globally based on the recognition of the economic and social importance of China. As a proactive response, the Ministry of General Education in Zambia included Mandarin Chinese as a second additional language in the secondary school Curriculum. However, there is a lack of exploring the epistemological beliefs and conceptions about Mandarin Chinese language teaching and learning in Zambia. A mixed research design is employed to study the epistemological beliefs and conceptions about Mandarin Chinese language teaching and learning in Zambia. A belief questionnaire was administered to 100 secondary school students learning Chinese as a Foreign Language (CFL). Semi-structured interviews were adopted to seek deep insights from 10 secondary school teachers on their epistemological beliefs and conceptions about Chinese language teaching and learning. The result shows that the students' epistemological beliefs about the introduction of Mandarin Chinese language learning in secondary schools is key to enhance mutual understanding and friendship between the People's Republic of China and Zambia. Also, the study results indicate that most of the students perceive learning Mandarin Chinese language as a window of opportunity for a good job and learning a new language. Nevertheless, the study results show that some teachers perceived the introduction of Mandarin Chinese language as a new form of Neo-colonization. This paper concludes that it's fundamental for teachers in secondary schools in Zambia to review their epistemological beliefs and conceptions about Mandarin Chinese language teaching and learning and try to incorporate a SAL orientation using both literacy artifacts and cultural artifacts in teaching Mandarin Chinese language in secondary schools.

Keywords: Epistemological beliefs and conceptions, Mandarin Chinese, Language teaching and learning, Chinese as foreign language (CFL)

Introduction

Over the past few years, the global propagation of Mandarin Chinese language and Chinese culture has gained momentum. At the same time, SLA researches have been developing an integrated view that combine cognitive, social and cultural factors to conceptualize language learning and teaching. Many studies, for example, Griffiths (2001), Li (2017), Magogwe and Oliver (2007), Oxford (1988), Yang (1999), Zhou and Huang (2018), etc., indicate that learners differ considerably in their use of learning strategies and their efficacy of language learning owing to complicated reasons that are impossible to account for from a single perspective. An important question is what causes language learners to approach a specific language learning task differently. What accounts for individual learner differences observed even among students with similar language competence? A realistic answer may be found in learners' beliefs and conceptions about language teaching and learning. Students who pay close attention to word parts to infer the meaning of an unknown word, for instance, may have a strong belief in the efficacy of an analytic approach to language learning, whereas those who depend on its surrounding context may strongly believe in a holistic approach. As Wenden (1986) put it, the metacognitive knowledge of a language plays an important role in learning that language.

In the classroom context, the opinions, beliefs, conceptions, and metacognitive knowledge that students bring with them to the learning situation have been acknowledged as a significant contributory factor in the learning process and ultimate success (Breen, 2001). For example, the process of second language acquisition success depends on a strong belief held by learners about the type of language under study, the existence of aptitude, their own expectations about achievement and teaching methodologies etc. In general, identification of these epistemological beliefs and conceptions on their potential impact on second language learning and teaching can inform future curriculum design and teacher practice in the course. In the Zambian context, where this study is situated, Mandarin Chinese language teaching and learning is encouraged mainly in primary and secondary schools by the Zambian government through the Ministry of General Education to develop pupils' foreign language proficiency (Ministry of General Education, Zambia, 2019). However, some scholars (e.g., Chen, 2008; Mitchell, 2000; Zhang & Thunø, 2014) indicated that in addition to language programs, it is also vital for the growth of a language field to conduct investigations on problems and issues germane to the field of CFL. Compared to studies on teaching English to speakers of other languages (TESOL), research on teaching Mandarin Chinese language to speakers of other languages, as noted by many researchers (e.g., Duff, 2014; Tinsley & Board, 2016), are limited especially in the African context.

This article reports a mixed-method study that the authors recently conducted on epistemological beliefs and conceptions about language teaching and learning of secondary school non-native learners and teachers of Mandarin Chinese in Zambia.

Literature review

Epistemological beliefs about language learning

Belief is a "messy construct", and defining it can be daunting (Barcelos, 2000). Studies of beliefs in different fields used various terms to refer to beliefs, such as "metacognitive

knowledge” and “subjective reality”, causing more confusion in understanding the concept (Barcelos, 2000). In the 1970s studies about beliefs started with the appearance of cognitive psychology, focusing on the nature of personal subjectivity. At the beginning of the twentieth century, some studies noted that all beliefs were derived from social and cultural settings. They started to highlight the term belief as “belief of culture” (Jin & Cortazzi, 2006).

Epistemological beliefs describe individuals’ view on the nature of knowledge and knowing while making sense of life (Hofer & Pintrich, 1997). In educational psychology, the study of epistemological beliefs, that is, beliefs about the nature of knowledge and learning, offers insightful accounts for individual differences in learning. For instance, Schommer and Walker (1995) identified multiple independent factors of college students’ epistemological beliefs and demonstrated the unique effects of the belief factors on learning and comprehension. Most epistemological belief studies examine the impact of student beliefs on learning in general, but not specifically on language learning. However, because second or foreign language learning is a specific type of learning, the theoretical framework and the methodology used in educational research could be helpful in accounting for different behaviors of language learners. Teachers’ epistemological beliefs about language learning, as we assume, play a decisive part regarding how a teacher interprets linguistic knowledge, justifies the structure and source of information, and, more generally, accounts for how the language learning process unfolds.

Throughout the past two decades, second language acquisition scholars have devoted attention to the cognitive aspects of language learning. Researchers in recent years have increasingly focused on students’ beliefs about the nature of language learning and the efficacy of the techniques they use (Hos & Kekec, 2014; Wang & Du, 2014). These studies are founded on the assumption that what students consider to be an effective strategy significantly influences their use of strategies.

As to language learners’ beliefs, since the 1980s, applied linguistic studies have been interested in gaining a comprehensive understanding of the belief system that EFL learners have about language and language learning and teaching. For that purpose, Horwitz (1988, 1999), for instance, developed the Beliefs About Language Learning Inventory (student and teacher version of BALLI) and Foreign Language Attitude Survey (FLAS) questionnaires to assess students’ opinions on a variety of issues and controversies related to language learning via free-recall protocols and group discussions with both foreign language and ESL learners, and teachers. The participants in her study were four groups of 25 language teachers of different cultural backgrounds and 150 first-semester language students at the University of Texas at Austin. Horwitz (1988, 1999) found that a systematic assessment of students’ and teachers’ beliefs provided by BALLI and FLAS would greatly facilitate learning in the foreign language methods course.

Teacher beliefs about teaching and learning

Teachers’ professional beliefs about language teaching and learning are “at the core of their professional belief systems, as these reflect their understanding of the key elements of teaching” (Wang & Du, 2016: 3). Mismatched beliefs between teachers and

students might cause frustration in students' learning, and in turn, affect teachers' pedagogical practice and interactions with their students (Soleimani, 2020; Wang & Du, 2016; Ye & Edwards, 2018). Furthermore, researchers claimed that teachers' beliefs needed to be interpreted within the specific sociocultural context, such as pedagogical principles of local schools and the broader educational schemas of the country (Chiang, 2010).

To probe the complexity of teacher beliefs and culture of learning, Ghanem (2015) raised the issue of the "missing paradigm" between teachers' knowledge and pedagogy and shed light on the understanding of teachers' beliefs (Ghanem, 2015). The notion of "personal practical knowledge" (PPK), which addressed teachers' perceptions of themselves, their students, and the teaching context, was also explored in the context of foreign language learning (Kim-Yoon, 2000). Therefore, the current study will also address CFL teachers' epistemological beliefs and conceptions regarding how they perceive themselves and their students when teaching Mandarin Chinese in the African context.

Chinese teachers' beliefs in the intercultural context

The challenges that native Chinese teachers face in terms of CFL instruction in Western countries, such as the US, UK and Australia, have attracted much attention in recent years (Medwell, Richardson, & Li, 2012; Moloney & Xu, 2016; Ye & Edwards, 2018; Zhou & Li, 2015). These challenges reflected teachers' cognitive dilemma of how to integrate their educational beliefs shaped by Chinese traditional culture into the pedagogical principles in the local context (Moloney, 2013). Teachers felt that the teacher-oriented approach did not fit the local schools, whilst their understanding of prioritizing students' needs and interests in teaching remained vague and abstract (Liao, Yuan, & Zhang, 2017; Wang & Du, 2016). Students' intrinsic motivation for learning was recognized by Chinese language teachers; however, they also valued rote memorization and commitment to Chinese learning (Hu & Smith, 2011; Moloney & Xu, 2015). Some teachers stressed providing engaging activities and lessons for students, yet they were concerned about the inferior creativity of their activity designs and misinterpreted the purpose of Chinese teaching as mere entertainment (Moloney & Xu, 2016).

It is noted that Chinese language teachers are actually going through the stage of belief transition. Teachers' beliefs about themselves as a Chinese language teacher and their students were the core factors in the process of their cognition reconstruction. Indeed, Chinese language teachers showed different levels of critical thinking about Chinese and Western pedagogy and educational values (Liao et al., 2017; Medwell et al., 2012; Moloney & Xu, 2012). Considering the distinctive features of Chinese, such as Chinese characters, Chinese language teachers valued strengths in both educational schemas and suggested learning from each side (Ye & Edwards, 2018).

In addition, studies revealed that some teachers tended to constantly reflect on their teaching practice and were enthusiastic about social networking, e.g., attending workshop and conferences, to develop their professional competency (Liao et al., 2017; Moloney, 2013). Nevertheless, novice teachers expressed their sense of isolation and limited social networking due to the unfamiliarity of the host countries and schools (Wang & Du, 2014, 2016; Zhou & Li, 2015). In that sense, the beliefs of Chinese

teachers in the intercultural context are related to different variables such as cultural tradition, teaching experience and their knowledge of instructional context.

Theoretical framework

This study adopts Horwitz's (1988, 1999) Beliefs about Language Learning Inventory (BALLI) as the research framework. The research was limited to five areas of language learning, (1) beliefs about the difficulty of language learning, which pertain to the general difficulty of learning a foreign language and the specific difficulty of a target language; (2) beliefs about foreign language aptitude, which touch upon the existence of language learning aptitude; (3) beliefs about the nature of language learning, which concern a range of issues relating to the language learning process; (4) beliefs about learning and communication strategies, which are most directly connected to learners' actual language learning practices; and (5) learner motivations and expectations, which deal with desires and opportunities learners associate with the learning of the target language.

The difficulties of language learning

Learners often have different ideas about the difficulty of the second or foreign language they are learning. Horwitz (1988, 1999) indicated that "ESL learners believe that some languages are easier to learn than others". Saha and Talukdar (2008) reported that ESL learners often had difficulties with the four English skills, for which they did not attempt to practice those skills. Siebert (2003) also identified differences in beliefs students hold about the length of time needed for learning a foreign language.

Foreign language aptitude

Foreign language aptitude means the special ability to learn a foreign language for which one can learn the language better than one who lacks this ability (Anderson, 2005). There are some commonly-held views towards foreign language learning. Many language learners, for example, have the belief that some people are born with a special ability for learning a foreign language while other people do not have this ability. Another belief popular among ordinary learner is that children are better language learners than adults and women perform better than men in language learning. Most of such beliefs involve the existence of special abilities for language learning. Horwitz (1988, 1999) reported that ESL learners held these types of beliefs and these beliefs might greatly affect their learning.

The nature of language learning

Learners hold different beliefs about what language is and how to learn it (Barcelos, 2003). For example, Learners might believe that learning grammar rules and vocabulary are important to learn and speak an L2 well. Some learners also believe that translation into L1 is important to understand L2. Horwitz (1988, 1999) indicated most of the students show strong beliefs in the need to study grammar. The target language culture often plays an important role in learning the language. Students holding different beliefs about the nature of language learning approach language differently.

Learning and communication strategies

Learners have different beliefs about language learning and communication strategies. Speaking is crucial in learning an L2. Students believe that knowing the way of using a language is important to learn the language, and one can guess if one does know the word (Ghanem, 2015). For speaking, students are often concerned about correct pronunciation, grammatical correctness, and effective factors like nervousness. Students' beliefs about these issues also affect their performance.

Motivation and expectancy

Students have different types of motivation and expectations for learning a foreign language (Okay & Balçıklanlı, 2017). CFL learners learn Chinese for better job opportunities and better exposure to the outside world. While some may only learn the language as they love literature and enjoy learning different cultures.

Methodology

Purpose of the study and the research questions

The purposes of the research are as follows: 1) to have a deep understanding of what shapes the learners' epistemological beliefs and conceptions about Mandarin Chinese Language learning; 2) to find out learners' epistemological beliefs and conceptions about Chinese teaching and learning; 3) to provide empirical evidence for policymakers in Zambia to improve the effect of Mandarin Chinese language. Quantitative data were generated to assist in achieving these purposes. In this respect, the study explored epistemological beliefs and conceptions about language teaching and learning using the following research questions:

1. What epistemological beliefs and conceptions do learners of Mandarin Chinese hold about language learning?
2. What beliefs do teachers of Mandarin Chinese hold about language learning?
3. What dimensions underlie the beliefs of Zambian secondary school learners of Mandarin Chinese about language learning?

For the complete picture of the complexity of people's beliefs, the settings and context of those beliefs need to be reflected on, as they are involved in complex ways with the beliefs (Ghanem, 2015). In that sense, this study uses belief questionnaires and in-depth interviews to collect quantitative and qualitative data. The quantitative part (36 items) explores which beliefs and learning strategies Mandarin Chinese language learners rank highly and establishes important variances, if any, between the three cohorts. It thus lays the foundation for establishing how these Mandarin Chinese language students experience and interpret language learning.

Building on that, this study utilized a sequential explanatory design consisting of two phases where the quantitative phase was dominant, meaning more weight was placed on the quantitative phase. A sequential explanatory design was utilized so that data from the in-depth interviews could help explain the quantitative results for the purpose of complementary. The data were connected and the quantitative phase helped form the qualitative phase. This connection happened in two places. The first connection of

the quantitative and qualitative phase was the use of the quantitative results to create the in-depth interview questions. The second connection was the mixing that happened after the qualitative data were collected and analyzed. The results were connected to gain a better understanding of the findings from both stages.

Context

The context of this research focuses on the epistemological beliefs and conceptions about language teaching and learning in the secondary school of non-native learners of Chinese and teachers of the Chinese language. Mandarin Chinese language was recently added to the Zambian school curriculum as an examinable additional foreign language in 2019 (Ministry of General Education, Zambia, 2019). The Zambian government, through the MoGE, introduced the Mandarin Chinese language in primary and secondary as a curriculum subject to develop pupils' FL communicative ability. However, some NGOs have opposed the introduction of the Mandarin Chinese language as a new form of Neo-colonialization, while other educational stakeholders have accepted the introduction of the Chinese language to be a good initiative by the government.

Participants

In this study, we used two criteria in selecting participants: (1) the participant was a Mandarin Chinese non-native speaker with non-heritage background, and (2) the participant taught the Chinese language at secondary school in Zambia as part of his or her job responsibilities. Purposive sampling was used to choose ten secondary schools teachers teaching Mandarin Chinese in Zambia. A number of potential participants who met the above two criteria were approached.

Participants for the qualitative component of the study volunteered at the end of the quantitative study to be contacted again later to participate in in-depth interviews. Participants were not purposively sampled because of the time required to participant and the fact that contact information was needed. One hundred and ten (110) of them agreed to participate in the study. One hundred (100) of them are Mandarin Chinese learners in secondary school, while the other ten (10) taught in secondary school. The majority of the participants were female teachers and students ($n = 78$) and there were ($n = 32$) male participants, teachers and students. All participants were non-native Mandarin Chinese Speakers.

Results and discussions

Descriptive statistics

Descriptive statistics were calculated for each 33 BALLI items answered by the teachers and students of Mandarin Chinese language in the selected secondary schools, 16 items showed significant differences between teachers and students. Differences were found in each of the five areas of language learning. Table 1 illustrates the approximate significance, strength of the relationship in percent of variance explained, and the directionality of the comparison of teachers and students on all BALLI items with a significant result. Highlights of each subcategory are summarized below.

Table 1 Frequency of Participant Responses to BALLI items on Difficult of Language Learning

	1	2	3	4	5	M	SD
3. Some languages are easier to learn than others.	36(35%)	46(45%)	13(13%)	7(7%)	0(0%)	1.91	0.869
4. Mandarin Chinese is: 1 = a very difficult language; 2 = a difficult language; 3 = a language of medium difficulty; 4 = an easy language; 5 = a very easy language.	1(1%)	23(23%)	57(56%)	18(18%)	3(3%)	2.99	0.752
15. If someone spent 1 h a day learning a language, how long would it take them to speak the language very well: 1 = less than a year; 2 = 1–2 years; 3 = 3–5 years; 4 = 5–10 years; 5 = you can't learn a language in 1 h per day	14(14%)	55(54%)	20(20%)	5(5%)	8(8%)	2.39	1.043
25. It is easier to speak than to understand a foreign language	7(7%)	23(23%)	33(32%)	25(25%)	14(14%)	3.16	1.132
34. It is easier to read and write Mandarin Chinese than to speak and understand it	7(7%)	18(18%)	31(30%)	32(31%)	14(14%)	2.73	1.121

1- Strongly Agree; 2- Agree; 3-Neither Agree nor Disagree; 4-Disagree; 5-Strongly Disagree; M Mean, SD Std Dev

The difficulty of language learning

The responses of teachers and students' epistemological beliefs and conceptions about Mandarin Chinese language supported the concept of a language learning difficulty hierarchy. Teachers and students agreed that some languages are easier to learn than others. This result is consistent with other research results employing the BALLI (Horwitz, 1988, 1999) and studies focusing on the characteristics of teaching Chinese (Li, 2014). Teachers and students differed significantly in their opinions about how difficult it is to learn Mandarin Chinese. The highest percentage of teachers, as shown in Table 1, rated the Mandarin Chinese language to be difficult to learn.

According to Table 1, the majority of participants (80%, $n = 82$) agreed or strongly agreed that Mandarin Chinese language learning varied in difficulty according to the target language and considered Mandarin Chinese language of medium difficulty (56%, $n = 57$). Most participants (54%, $n = 55$) felt it would take between one and 2 years to speak Mandarin Chinese well if they spent an hour a day learning it. In terms of the comparative difficulty of language skills, participants had mixed views. The results show that roughly one-third participants responded positively to item 25, that is, it is easier to speak than to understand Mandarin Chinese, which positioned a productive skill as easier than a receptive one. Meanwhile, slightly more participants (another one-third) disagreed with the item, with 39% choosing response 4 or 5, while 32% chose the neutral response. The responses of participants supported the concept of language hierarchy, and these results are similar to those found in previous studies in EAP (Wang & Kuo, 2016; Woods, 2003) and EFL contexts (Abedini, Rahimi, & Zare-ee, 2011). Participants in all these studies also believed that languages varied in difficulty and rejected the idea that speaking is easier than comprehending. It is encouraging that CFL students in this study hold positive epistemological beliefs and conceptions of foreign language learning.

Foreign language aptitude

Foreign Language Aptitude relates to participants' epistemological beliefs and conceptions about foreign language aptitude and inherent individual characteristics that

facilitate successful language learning, such as gender and age. In addition, two BALLI items, 11 and 30, aim to measure whether respondents ascribe to the notion of different types of intelligence. For instance, item 11 states that students who are good at mathematics are not good at learning foreign languages, requiring participants to decide whether being good at mathematics means that one is not good at learning foreign languages or whether both abilities are related to overall intelligence. Table 2 below illustrates participants' responses to BALLI items within this theme and the mean and standard deviation for each item.

As seen from Table 2, CFL students' epistemological beliefs and conceptions about foreign language aptitude recognize its existence. 93% ($n = 94$) strongly agreed or in agreement with the popular conception that children can easily learn a foreign language than adults. In addition, the belief that foreign language aptitude exists appeared to be common, as 84% ($n = 86$) responded positively to this item. However, a smaller percentage of the students believed that they had this unique ability (36%, $n = 37$), and 43% responded neutrally to item 16-*I have a special ability for learning foreign languages*. Thus, even though most participants believed that some people have a natural talent for learning foreign languages, most of them indicated that they did not consider themselves having this talent. Table 1 above, shows the percentage of teacher and students' epistemological beliefs and conceptions in response to all BALLI items related to foreign language aptitude.

On item 16, teachers and students held similar beliefs that everyone can learn to speak a foreign language well. Despite 92% of the participants agreeing that some people have the ability to learn a foreign language, less than a third (22%) agreed that they had the ability, with most responding neutrally. It is encouraging that CFL students hold positive epistemological beliefs and conceptions concerning the ability of foreign language learning.

Table 2 Frequency of Participant Response to BALLI items on Foreign Language Aptitude

	1	2	3	4	5	M	SD
1. It is easier for children than adults to learn a foreign language.	74(73%)	20(20%)	5(5%)	2(2%)	1(1%)	1.39	0.760
2. Some people have a special ability for learning foreign languages.	37(36%)	49(48%)	11(11%)	2(2%)	3(4%)	1.87	0.897
6. People from my country are good at learning foreign languages.	12(12%)	44(43%)	32(31%)	12(13%)	2(2%)	2.49	0.919
10. It is easier for someone who already speaks a foreign language to learn another one.	20(20%)	43(42%)	29(28%)	8(9%)	2(2%)	2.31	0.941
11. People who are good at mathematics or science are not good at learning foreign languages.	3(3%)	9(9%)	24(24%)	35(34%)	31(30%)	3.80	1.063
16. I have a special ability for learning foreign languages.	7(7%)	30(29%)	44(43%)	18(18%)	3(3%)	2.80	0.912
19. Women are better than men at learning languages.	8(8%)	14(14%)	46(45%)	18(18%)	16(16%)	3.20	1.108
30. People who speak more than one language are very intelligent.	24(24%)	32(31%)	28(28%)	15(15%)	3(3%)	2.42	1.094
33. Everyone can learn to speak a foreign language	30(29%)	42(41%)	19(19%)	9(9%)	2(2%)	2.13	1.002

1- Strongly Agree; 2- Agree; 3-Neither Agree nor Disagree; 4-Disagree; 5-Strongly Disagree; M Mean, S.D. Std Dev

The nature of language learning

The descriptive statistics revealed several differences (see Table 3). According to the BALLI items on nature of language learning students’ epistemological beliefs and conceptions, the results indicate that 92% (*n* = 93) of participants agreed that the ideal context for learning Mandarin Chinese is in a Chinese speaking environment, and 75% (*n* = 76) felt that learning a foreign language was different from learning other subjects. In addition, 61% of participants agreed or strongly agreed that having knowledge about Mandarin Chinese culture was a necessity in learning the Mandarin Chinese language, while 26% responded neutrally to this item. Table 3 below illustrates participants’ responses to BALLI items within this theme and the mean and standard deviation for each item.

Strategies for communication and learning

According to the descriptive statistics, it has been found that students’ epistemological beliefs and conceptions in this study were generally supportive of the practices necessary for participation in communicative activities, such as repeating and practicing a lot. The significance difference between teachers and students on BALLI item 14 is illustrated in Table 4 below. Overall, 92% (*n* = 93) agreed that the ideal context for learning Mandarin Chinese is in a Chinese speaking environment, and 75% (*n* = 76) felt that learning a foreign language was different from learning other subjects. In addition, 61% of participants agreed or strongly agreed that knowledge of Mandarin Chinese-speaking cultures was necessary for learning the Mandarin Chinese language, while 26% responded neutrally to this item.

The results in this theme indicate some contradictory epistemological beliefs and conceptions among the participants. For example, most participants were highly confident, particularly when it comes to verbal communication; 63% disagreed that they felt shy when speaking Mandarin Chinese and 86% said they enjoyed speaking Mandarin Chinese with other people. Another positive finding is that participants have consistent beliefs with at least one aspect of CFL methodology, with a majority (74%, *n* = 76) agreeing that guessing is an acceptable strategy of dealing with unknown words. In addition, most (58%) participants also rejected item 9-*You shouldn’t say anything in*

Table 3 Frequency of Participant Response to BALLI items on Nature of Language Learning

	1	2	3	4	5	M	SD
8. It is necessary to know about Mandarin Chinese speaking cultures to speak Chinese.	17(17%)	45(44%)	26(26%)	11(11%)	3(3%)	2.39	0.987
12. It is best to learn Mandarin Chinese in a Chinese-speaking country or environment.	76(75%)	17(17%)	4(4%)	3(3%)	2(2%)	1.41	0.860
17. The most important part of learning a foreign language is learning new words.	34(33%)	47(46%)	10(10%)	10(10%)	1(1%)	1.99	0.961
23. The most important part of learning a foreign language is learning grammar.	35(34%)	32(31%)	21(21%)	11(11%)	3(3%)	2.17	1.107
27. Learning a foreign language is different than learning other academic subjects.	20(20%)	56(55%)	20(20%)	6(6%)	0(0%)	2.12	0.787
28. The most important part of learning Mandarin Chinese is learning how to translate from my own language.	18(18%)	37(37%)	18(18%)	21(21%)	8(8%)	2.65	1.216

1-Strongly Agree; 2- Agree; 3-Neither Agree nor Disagree; 4-Disagree; 5-Strongly Disagree; M Mean, S.D. Std Dev

Table 4 Frequency of Participation Response to BALLI item on Strategies for Communication and Learning

	1	2	3	4	5	M	SD
7. It is important to speak Mandarin Chinese with an excellent pronunciation.	69(68%)	29(28%)	1(1%)	2(2%)	1(1%)	1.40	0.707
9. You shouldn't say anything in Mandarin Chinese until you can say it correctly.	12(12%)	15(15%)	16(16%)	34(33%)	25(25%)	3.44	1.324
13. I enjoy practicing Mandarin Chinese with the people I meet.	45(44%)	43(42%)	9(9%)	5(5%)	2(2%)	1.75	0.817
14. It is okay to guess if you don't know a word in Mandarin Chinese.	32(31%)	44(43%)	16(16%)	5(5%)	5(5%)	2.09	1.055
18. It is important to repeat and practice a lot.	78(77%)	22(22%)	0(0%)	1(1%)	1(1%)	1.28	0.619
21. I feel shy speaking English with other people	2(2%)	17(17%)	2(2%)	33(32%)	33(32%)	3.74	1.133
22. If beginning students are allowed to make mistakes in Mandarin Chinese, it will be difficult for them to speak correctly later.	20(20%)	20(20%)	17(17%)	14(14%)	31(30%)	2.99	1.361
26. It is important to practice with DVDs.	32(31%)	50(49%)	16(16%)	2(2%)	2(2%)	1.94	0.854

1-Strongly Agree; 2- Agree; 3-Neither Agree nor Disagree; 4-Disagree; 5-Strongly Disagree; M Mean, S.D. Std Dev

Mandarin Chinese until you can say it correctly and item 22 (44%) about the need to correct beginners' errors to avoid fossilization. This anxiety about mistakes could hinder learners' attempts at communication for fear of making pronunciation errors.

However, the participants who disagreed with these items were not an overwhelming majority, which indicates that many participants were anxious about making mistakes. This can also be seen in the way participants value accuracy in pronunciation; 96% percent agreed that excellent Mandarin Chinese pronunciation was important.

Learner motivation and expectations

According to Table 5, students' epistemological beliefs and conceptions about foreign language learning tend to view their learning motivation and expectations as an influential factor in their overall beliefs about language learning. Items in this theme cover various types of motivation as well as participants' own assessment of their potential success in language learning. For example, Item 31-*I want to learn to speak Mandarin Chinese very well* seeks to measure participants' degree of motivation, while items 24,

Table 5 Frequency of Participant Response to BALLI items on Learner Motivation and Expectation

	1	2	3	4	5	M	SD
5. I believe I will learn to speak Mandarin Chinese very well.	50(49%)	50(49%)	50(49%)	50(49%)	50(49%)	50(49%)	50(49%)
20. People in my country feel that it is important to speak Mandarin Chinese.	39(38%)	39(38%)	39(38%)	39(38%)	39(38%)	39(38%)	39(38%)
24. I would like to learn Mandarin Chinese so that I can get to know its speakers better.	30(29%)	50(49%)	16(16%)	5(5%)	1(1%)	1.99	0.862
29. If I learn Mandarin Chinese very well, I will have better job opportunities.	32(31%)	44(43%)	16(16%)	5(5%)	5(5%)	2.09	1.055
31. I want to learn to speak Mandarin Chinese very well.	78(77%)	22(22%)	0(0%)	1(1%)	1(1%)	1.28	0.619
32. I would like to have Mandarin Chinese speaking friends.	44(43%)	44(43%)	44(43%)	44(43%)	44(43%)	44(43%)	44(43%)

1-Strongly Agree; 2- Agree; 3-Neither Agree nor Disagree; 4-Disagree; 5-Strongly Disagree; M Mean, S.D. Std Dev

29 and 31 measure the type of motivation participants have to learn Mandarin Chinese. For example, item 24-*I would like to learn Mandarin Chinese so that I can get to know its speakers better*, and item 29-*If I learn Mandarin Chinese very well, I will have better job opportunities* to address integrative and instrumental motivation, respectively, while item 5 refers to participants' expectations of success in learning Mandarin Chinese. Table 5. below show participants' responses to the BALLI items in this theme.

According to Table 5, participants' responses in this study held positive epistemological beliefs and conceptions about foreign language learning. All the items had agreement rates of 77% or more, showing that participants had positive expectations and were highly motivated to learn Mandarin Chinese. Participants were optimistic about their ultimate success in learning Mandarin Chinese; 94% ($n = 96$) believed that they would learn to speak Mandarin Chinese very well, and only two participants disagreed with the statement. In addition, participants were highly motivated, with 97% agreeing that they wanted to learn to speak Mandarin Chinese very well. In terms of types of motivation, an equally high proportion (91%, $n = 93$) believed that proficiency in Mandarin Chinese would lead to better job opportunities. The items concerning integrative motivation, items 24 and 32, in addition to item 20 on the value of Mandarin Chinese, registered slightly lower rates of agreement when compared to most of the other items in this theme, which had more than 90% agreement. About 89% of participants stated that they would like to have Mandarin Chinese-speaking friends. Item 24, on integrative motivation, was one of the items with the lowest percentage of agreement in this theme, with 78% of participants agreeing that getting to know Mandarin Chinese speakers better was one reason they were learning Mandarin Chinese.

Qualitative phase results

The qualitative components of the study sought to answer two questions not addressed in the quantitative phase: "What are the prevalent epistemological beliefs and conceptions about language learning among CFL students and teachers in secondary schools?" and "What is the difference between CFL students' epistemological beliefs and conceptions about language learning?"

Motivation and beliefs

The first research question aimed to explore the prevalent epistemological beliefs and conceptions about language learning among CFL students and teachers in secondary schools. The study results indicated that secondary school students want to learn Mandarin Chinese language because they have a strong conviction that it will boost their employment prospect as China-Zambia's economic and trade cooperation deepens.

One of the participants mentioned that it was a good thing the Ministry of General Education introduced Mandarin Chinese language teaching and learning in schools today because this will help the students have an in-depth understanding of learning Chinese philosophy and culture and hence make the students better global citizens.

“You see, language is key to enhancing mutual understanding and friendship between the two peoples. It has promoted exchanges between China and Zambia.” (T, 23 December, 2020).

The teachers' viewpoints on the motivation of students learning Mandarin Chinese language varies among Zambian learners due to different reasons. The study results indicated that some students grew up loving Chinese culture through movies while others learn Mandarin Chinese language out of curiosity, some for ambitions to study abroad and obtain a scholarship, another teacher, T3 indicated that:

“Most of our students today want to further their studies and one of the places they want to go and study is China. Hence, you see a very big increase and interest of secondary school students to learn Mandarin Chinese language because after they finish their secondary school their parents want to take them to study abroad in China.” (T3, December, 2020)

Furthermore, during our in-depth interview, some of the teachers indicated that some their students participated in the lesson activities and they were able to converse in Mandarin Chinese language with their teachers and classmates and spontaneously volunteered to write *pinyin* and Mandarin Chinese characters on the board. T4, another teacher stated that: *“Our students are learning step by step and we are teaching everyone in the class the basics regardless of grade, everyone is learning Mandarin Chinese gurus and so forth.”* (T4, December, 2020).

Notably, the teachers indicated that parents today want their children to learn Mandarin Chinese language because of China's economic growth and investment in the Zambian economy and most parents have no objection to the introduction of Mandarin Chinese language in the schools today. This finding agrees with Owaki, Kathina, Khayeka-Wandabwa, Gichuru, and Amimo (2019) who argued that Chinese language has become valued as one of the promising foreign language in Africa today and has become a driving force for many Mandarin Chinese language learners due to the economic gain prospect in the future.

Another example shows that teachers are enthusiastic about the teaching of Mandarin Chinese language since the introduction of the language in the curriculum and that they recognize the advantages of primary and secondary school students learning Mandarin Chinese language. As one of the teachers, T7 remarked:

“Our students now have a good opportunity to learn a second foreign language with a very long rich history of culture lasting about 5000 years ago and this will help our students in the near future as they finish their secondary school level to become global citizens in this global village today.” (T7, December, 2020)

Therefore, it is evident enough from the stated findings above that one of the drivers of motivation and belief for teachers and students in learning and teaching Mandarin in secondary schools of Lusaka District, Zambia is due to intrinsic motivation, parents support and acceptance of the introduction of Mandarin Chinese language in the

curriculum, job opportunities, ability to be global citizens, opportunities to travel to mainland China.

Ways of teaching and learning Chinese

The results indicated that the students participated enthusiastically in dialogue and activities that required them to write in *Pinyin* on the whiteboard or blackboard. Students were given the opportunities to express themselves without interruption and to engage in short conversations in Mandarin Chinese. Zhang and Li (2010) pointed out that learning Chinese language involves a great deal of practice by learners, including learning by memory and note-learning strategies.

The study results show that teachers in secondary school in Lusaka district Zambia use participatory methods to engage their students to express themselves. The findings show that teachers have a good sound knowledge, understanding, and use of Mandarin Chinese language. Teachers and student's interaction are very good, as most students are able to respond to the teachers' questions in Mandarin Chinese and write and Mandarin Chinese characters. As one of the participants indicated:

"I always teach my students by highlighting the structures of Mandarin characters, how they are put together, what they mean, sound of the whole character and their similarities to give my students the context of the characters simultaneously, and let them know how characters sounds change as the message in the text becomes clear."
(T9, December, 2020).

Challenges facing the teaching and learning in Zambia

The third research question aimed to explore the challenges of teaching Mandarin Chinese language in secondary schools. The results of the study indicated teachers were able to see the connection between language teaching and Chinese culture and to state their views with their own experience in Mandarin Chinese language teaching. This indicates that there is no consensus among the teachers' views on whether culture should be a part of the Mandarin Chinese language teaching curriculum or not. However, all the teachers mentioned that they dealt with issues related to cultural differences in their Chinese Mandarin language class. One of the teachers, T2, remarked:

"In my own opinion, it is difficult to separate 'language' and 'culture'. If we are teaching Mandarin Chinese language then our students should either be aware of the elements of Mandarin Chinese or Chinese culture or be informed about these elements via teaching materials in the classrooms ... I believe that the students' motivation increases if they learn more about the elements of the Mandarin Chinese language culture in the Chinese language classrooms." (T2, December, 2020)

However, the study results also showed that a small number of teachers were concerned about ethical identity and sovereignty because of the introduction of Mandarin Chinese Language in the school curriculum, which is viewed as a form of Neo-colonialism. One of the teachers remarked:

“In my own opinion, the introduction of Mandarin Chinese in the school circular is a political strategic tool and not academic one to influence the growth of Chinese investment in Zambia. I feel the government did not consider the sovereignty of this country by this move but only focused on the political and economic benefits learning Chinese provides to our students as we shall be required to adopt Chinese culture which is far from our own despite Zambia’s enjoying good bilateral relationship with China.” (T9, December, 2020)

Conclusion

The present study was conducted to investigate the epistemological beliefs and conceptions about language teaching and learning among Zambian secondary school non-native learners and teachers of Mandarin Chinese language. Firstly, the descriptive analysis of 33 BALLI items reveals that CFL students’ epistemological beliefs about learning Mandarin Chinese language motivated them about language learning. Particularly, these CFL students were highly motivated to learn Mandarin Chinese language in prospect of a better job opportunity by virtue of being bilingual in Mandarin Chinese and English languages.

What we find in our study implies that a pragmatical epistemological beliefs and conceptions about CFL learning and teaching is pervasive among both students and teachers in Zambia even though all agree that understanding Chinese culture is considered to be part of understanding the language itself (as observed in a research by Clark-Gareca and Gui (2018)). An awareness and understanding of the subjective culture is important to language learning because language cannot be separated from thought, and thought is based on assumptions, values, and beliefs. Furthermore, Therefore, we suggest that it’s fundamental significant for teachers in secondary schools to review their epistemological beliefs and conceptions about Mandarin Chinese language teaching practices and try to incorporate SLA orientation by using both literacy artefacts and cultural artefacts in teaching Mandarin Chinese language in this cross-cultural context.

Abbreviations

CFL: Chinese as Foreign Language; SLA: Second Language Acquisition; FL: Foreign Language; ESL: English as a Second Language; NGOs: Non-Governmental Organizations; MoGE: Ministry of General Education; TESOL: Teaching English to Speakers of Other Languages; Personal Practical Knowledge; FLAS: Foreign Language Attitude Survey; L1: First Language; L2: Second Language; FLA: First Language Acquisition; EAP: English for Academic Purposes; BALLI: Beliefs About Language Learning Inventory

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Authors’ contributions

Dr. Wanjuan Zhong designed the research and reviewed the literature. Gift Muyunda collected the data and drafted the manuscript. Dr. Jun Cheng co-designed the research and analyzed the data. All the authors read and approved the final manuscript.

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Availability of data and materials

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Declarations

Ethics approval and consent to participate

We confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us. We understand that the Corresponding Author Dr. Jun Cheng is the sole contact for the Editorial process (including Editorial Manager and direct communications with the office). He is responsible for communicating with the other authors about progress, submissions of revisions and final approval of proofs. We confirm that we have provided a current, correct email address which is accessible by the Corresponding Author.

Competing interests

The authors declare that they have no competing interests.

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