

Relationship between Student Teachers' Beliefs and Practices on Early Chinese Literacy Instruction

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Abstract This study explores the relationship between student teachers' beliefs and practices in early Chinese literacy instruction. Semi-structured interviews, classroom observation, and document analysis were conducted with six student teachers during their teaching practices. Findings indicated that the student teachers believed explicitly teaching literacy skills and imperceptible acquisition of literacy abilities through communication and meaning-making processes are essential in Chinese early literacy learning. However, they mainly taught Chinese literacy skills in their practices, which means the student teachers still needed to practice what they preached fully. The study suggests that possible reasons for the discrepancies include 'direct teaching' and 'rote learning' might be much easier for student teachers to design and conduct a lesson. Student teachers have limited abilities and experiences in conducting an ideal lesson, and the kindergarten curriculum and onsite supervisors highly influenced their teaching practices. The findings from this study suggested that more operational activities (such as designing lesson plans and conducting micro-teaching) should be used during pre-service training. Furthermore, the communication of educational beliefs between the university supervisor and the onsite supervisor should be strengthened.

Keywords Student Teachers, Beliefs and Practices, Chinese Literacy Instruction, Kindergarten

1. Introduction

Most of what we do in teacher education seeks to initiate changes in student teachers' beliefs. The underlying hypothesis is that changes in student teachers' practices result from changes in their beliefs. However, studies on the relationship between teachers' beliefs and practices have continuously reported different degrees of consistency [1,2]. Some studies [3,4] proved that teachers' beliefs about teaching, learning and assessment influence or even determine their classroom practices and pedagogical decision-making. However, other studies [1,5] indicated that teachers' practices are only sometimes aligned with their beliefs.

Compared with the in-conformity relationship between teachers' beliefs and practices, there seems to be more consistency between student teachers' beliefs and practices [6]. However, the limited number and diversity of research might be an essential factor that could explain such difference. Therefore, launching a study to explore and determine the relationship between student teachers' beliefs and practices was meaningful.

The Context of the Study

As one of the two official languages used in Macao, Chinese is an essential part of the infant education curricula (infant education in Macao refers to education provided for children aged 3-6 years old). Cantonese is the lingua franca in Macao. Therefore, teaching Chinese in most

kindergartens is teaching Cantonese and traditional Chinese characters, which is the same as in Hong Kong. It differs from mainland China and Taiwan, where they teach simple Chinese and use Mandarin.

Early literacy is essential as past studies proved its long-term influences on an individual's future language learning [7-9]. About what literacy is and how to teach early literacy effectively, research [10-12] outlined different perspectives, such as the balanced approach, the skill-based approach and the whole language approach. According to Macao's Infant Education Curriculum Guide [13], the balanced approach was essential in early literacy instruction. Because both learning literacy skills (recognise and pronounce simple words; know the proper way to hold a pen) and meaning-making, storybooks and understanding were emphasised in the basic academic requirement for early literacy instruction.

It is worth mentioning that although Cantonese is the daily language and mother tongue of most people in Macao, it is hardly taught in school as a written language. As Tam [14] mentioned, most Cantonese could be written in Han characters of the written language based on Mandarin. Some of them could not find corresponding characters in the written language, which created inconsistency in oral and written language in Chinese learning. Therefore, children in Macao are taught Cantonese to listen, speak and communicate first; and secondly, learn to read and write in written Chinese (which would be different from their English language learning in Cantonese).

During our university's Bachelor of Education pre-service training (hereafter abbreviated as BED) programme, student teachers took a core module, Chinese Language and Communication in Infant Education. The module introduced the theories and different perspectives on Chinese literacy instruction and prepared them for teaching Chinese in kindergartens. During the following semester, they started their teaching practices and were asked to teach early Chinese literacy in kindergartens. Which perspective did the student teachers support in early Chinese literacy instruction? Did they practice what they preached when they came to the field? Were their beliefs consistent with their teaching practices? This study was designed to explore these issues in student teachers' teaching practices to provide valuable suggestions for early literacy education researchers, policymakers, and teacher educators.

To achieve the above aims, three research questions are formulated:

1. What are the student teachers' beliefs about early Chinese literacy instruction?
2. What pedagogical practices do student teachers use to support children's literacy learning?
3. To what extent do the student teachers' pedagogical practices reflect their beliefs on early Chinese literacy instruction?

2. Literature Review

Different Perspectives on Early Literacy Instruction

Research on early literacy [15-18] has identified different perspectives on literacy and how to support early literacy learning effectively. Some scholars [19,20] considered literacy as a continuum of skills, such as phonics, word recognition, and grammar, which must be taught systematically and explicitly. They believed literacy learning is an externally imposed task. This viewpoint was known as the skills-based approach. Some scholars [21,22,11] insisted that literacy is a set of social practices grounded in a specific social context. They emphasised children's interpretation, comprehension, and meaning-making in literacy learning. This perspective was referred to as the whole language approach. In addition to these two viewpoints, other scholars [23,16] still claim that one method does not exclude the other, and the skills-based and the whole language approaches are not opposed. As Morrow and Dougherty [16] proposed, skills-based explicit teaching activities could be a good start for constructivist problem-solving activities. The constructivist activities could help to consolidate literacy skills. This viewpoint was conceptualised as the balanced approach.

Early Literacy Instruction in Chinese Literacy Learning

People generally think that early Chinese literacy instruction differs from English literacy instruction [24,25]. Sun [26] argued that the debate between the skills-based and the whole language approaches in early literacy instruction also existed in the Chinese-speaking context.

In Mainland China, the whole language approach is highly recommended in Chinese early literacy instruction, which could be inferred from the Handbook for 3-6 Years Old Children's Learning and Development [27]. Besides, literature on early Chinese literacy instruction in Mainland China also found that scholars mainly advocated the whole language approach and criticised the focus on teaching literacy skills (e.g., Chinese character recognition and character writing) in kindergartens.

In Hong Kong, the whole language approach is recommended in the policy documents. Kindergarten Education Curriculum Guide emphasises the natural acquisition of literacy, a child-centred approach, children's real-life experiences, and rich-literacy environments [28]. However, empirical studies [29] have ascertained that kindergarten teachers are more inclined to use the skills-based approach and teacher-directed instruction in early literacy instruction. The majority need a more in-depth understanding of the whole language approach.

In Taiwan, Lian-Ju and Wen-Yun [30] summarised the language education policies. The whole language approach was considered the central instruction principle in early literacy instruction from 2000. In other words, literacy was considered a social communication ability. The primary aim of early literacy instruction was to cultivate children's

communication abilities and teach Chinese literacy skills, such as phonetic symbols, characters and words, was not encouraged in the early literacy instructional policies. However, some scholars [30,31] pointed out that the skills-based approach was widely used in early literacy teaching and learning practices.

Although the whole language approach had been highly recommended in literature and policy documents, skills-based formal literacy teaching was still commonly used in kindergartens [26]. Besides, some researchers still consider formal literacy teaching, copying and rote learning as effective language teaching methods [29,32] in Chinese literacy instruction. Li [33] reviewed the primary pedagogies in Chinese early literacy instruction and put forward a syncretical viewpoint: skills-based approach and whole language approach can coexist and collaborate, and the most effective approaches are a combination of the direct literacy instruction and emergent literacy approach, a mixture of skills-based approach and the whole language approach, and a collaboration between home and school. Therefore, Sun [26] concluded that the skills-based and whole-language approaches in Chinese early literacy instruction coexisted. The balanced approach was supported in nearly all Chinese-speaking contexts.

Teachers' Beliefs and Practices on Early Literacy Instruction

Belief is a concept that has been studied in many different disciplines and fields. It is often a synonym for attitudes, perceptions, conceptions, opinions, and others [34]. Hindman and Wasik's [35] proposed that teachers' beliefs of literacy learning as including what teachers think, assume, and know about the nature of literacy and literacy learning in kindergarten; how young children learn literacy; what is the teacher's role in children's literacy learning, and how to assess children's literacy abilities.

Teachers' Beliefs on Early Literacy Instruction

Many researchers tried to understand teachers' beliefs about early literacy. In a mixed-method study, Lim [36] investigated Singaporean preschool teachers' beliefs about early English literacy development and instruction. Results showed four teacher perspectives: child-centred pedagogy, child development, emergent literacy and communicative development perspective. In another study, Lim and Torr [37] used a questionnaire to examine Singaporean kindergarten teachers' beliefs about literacy. Results revealed that nearly all teachers claimed that cultivating children's ability to communicate and express themselves is the primary goal of literacy teaching, which is aligned with the whole language approach. Differently, in a Greek study, Stellakis [38] used a questionnaire to examine kindergarten teachers' perceptions of early literacy skills and instruction. Results found that teachers adopted the whole language approach and defined literacy as communication ability. However, they restricted early literacy instruction practices to teaching phonics.

In summary, many studies discussed kindergarten teachers' beliefs about early literacy and how teachers define literacy and the effective pedagogy of literacy instruction. However, more studies should have discussed Chinese kindergarten teachers' beliefs and early literacy instruction.

Pedagogical Practices in Early Literacy Instruction

Studies show that the theories of literacy learning influenced the pedagogical practices in early literacy instruction. In the skills-based approach, *teacher-directed systematical literacy teaching* of the literacy might be the common choice. While in the whole language approach, *child-centred practice* would be more popular.

Only a few studies discussed the pedagogical practices in early literacy instruction. Tolchinsky et al. [39] examined teachers' self-declared literacy practices in preschool using a questionnaire, and they identified three types of practices:

- Situational-oriented practices, which use diverse materials and situations to teach literacy usually and organise reading and writing activities in small groups
- Instructional-oriented practices focus on the quality of learning outcomes and use systematic instruction of the code.
- Multidimensional-oriented practices, which also care about the quality of literacy outcomes and focus on occasional learning, autonomous writing and classroom dynamics

Watson and Wildy [40] investigated the pedagogical practices of novice and experienced early childhood teachers. The results showed some differences between novice and experienced teachers' pedagogical practices.

Relationship between Teachers' Beliefs and Practices

Many studies focused on the relationship between teachers' beliefs and practices, and the findings are controversial. Some studies reported that teachers' beliefs are consistent with their practices, and teachers' instructional practices are often influenced or even determined by their beliefs. For example, Cummins et al. [41] proved that teachers' literacy instructional practices are always consistent with their beliefs about what literacy skills or contents are essential.

However, other studies also reported a misalignment between teachers' beliefs and practices [1,42]. For example, Handal and Herrington [43] pointed out general inconsistencies between teachers' beliefs and practices. The possible reasons might be the constraining forces out of a teacher's control. Such as the pressures from administrative leaders to follow specific instructional methods, parents' expectations about children's early literacy abilities, limitations of the environment and teaching resources and materials, and classroom life's agitation and unpredictability issues.

3. Methods

A multiple-case study was used to collect qualitative data on student teachers' early Chinese literacy instructional beliefs and pedagogical practices and to determine the relationship between their beliefs and practices.

Participants and the Context

Six student teachers who had taken the course Chinese Language and Communication in Infant Education with the principal researcher participated in this study. The university assigned them to do their teaching practices in four different kindergartens in Macao. Each participant was asked to complete three Chinese literacy teaching activities (each activity lasted for about 30 minutes). They were interviewed before and after each activity to report their beliefs about early Chinese literacy instruction and explain their teaching practices. Their lesson plans were also collected as part of the data for the project before each teaching activity.

In Macao, schools have autonomy in making school-based policies, curricula, and textbooks, including kindergartens [44]. Therefore, each kindergarten may have its curriculum and pedagogy. However, all kindergartens abide by the Requirements of Basic Academic Attainments of early childhood education [13], which is the governmental guidance on the learning, teaching and assessing each subject, including Chinese literacy instruction.

Data Collection

Data collected included semi-structured interviews, classroom observations, and document analysis. Each student teacher participated in seven semi-structured interviews (each about a half-hour) within three months of the internship. The first interview aimed to investigate student teachers' general beliefs on early Chinese literacy instruction at the beginning of their internship. The interview questions mainly focused on student teachers' beliefs on the nature of Chinese literacy, the appropriate environment and instructional strategies for early Chinese literacy instruction, and their experience and evaluation of how Chinese literacy was taught in kindergartens. The last six interviews were three pre- and three post-teaching interviews, which were conducted before and after each class observation, and each interview was about a half-hour. Pre-teaching interviews aimed to understand student teachers' design of this lesson, and interview questions were around the objectives, intended learning outcomes, instructional strategies, and assessment methods, as well as how and why they believed this lesson was effective. Post-teaching interviews aimed to explore student teachers' reflections and self-evaluations of this lesson. Interview questions focused on whether they believed teaching objectives were achieved in this lesson, whether they

thoroughly practised what was designed on the lesson plan, and why they could not fully practice their plan if there was any difference. The interview was mainly used to collect data for investigating the student teachers' beliefs. The interview transcript, class observations and documents were triangulated. As Cantonese was the native language of the interviewees, it was used in the interviews to fully capture the interviewees' viewpoints and avoid misunderstandings. All interviews were conducted with consented audio recording at places convenient to the participants. The interviews were later transcribed, translated by the research assistants, and checked by the researchers.

Besides, the researchers observed three 30-minute lessons for each student teacher during their teaching practice (Table 1). The classroom observation explored the consistency between the student teachers' educational beliefs and their in-class teaching practices. Detailed field notes replaced in-class video recording for ethics considerations on protecting school students' privacy. Collected documents included all student teachers' teaching practices portfolios, including lesson plans (18 lesson plans) and their reflective journals (6 reflections). The documents consisted of data on the student teachers' plans and educational beliefs, feedback, and the circumstances during the study.

Data Analysis

Data were analysed using a thematic approach. All the data, including interview transcription, documents and classroom observation notes, were coded and analysed inductively and deductively. The researchers carefully read and reviewed the data and then coded the data. Themes emerged from the data and codes via a recursive process of open coding, such as the 'coordinate approach' [45] in early Chinese literacy instruction. Next, we compared and regrouped the themes into significant categories. Informed by the literature review, emerged themes yielded from open coding were regrouped into overarching categories such as 'the skills-based approach', 'whole language approach', 'the balanced approach', 'beliefs system', 'practices system' and 'relationship between beliefs and practices'. The researchers analysed the data case by case to provide a detailed description of each student teacher. There were also some comparisons and cross-case analyses when reporting the results in response to the research questions.

4. Finding

The results will be reported below according to the research questions. To better answer the research questions, the in-depth description of each case and cross-analysis among these cases will be combined to present the research findings.

Student Teachers' Beliefs on Early Chinese Literacy Instruction

Both literacy skills and communication are essential in Chinese literacy learning.

Data showed that the student teachers supported the balanced approach in Chinese early literacy instruction, which was consistent with the value of the course training. They believed that both language skills learning (character recognition, learning of structure, stroke orders of writing, etc.) and communication and meaning-making process were critical. However, nearly all of them mentioned that communication and meaning-making should be the ultimate/major purpose of learning Chinese literacy, while explicitly teaching Chinese skills in the early years is a good start and foundation. The results can be shown in the following extracts:

Learning literacy skills, such as Chinese character recognition, the stroke orders of writing Chinese characters, and how to hold onto a pen, is important for children. However, communication and expressing oneself are much more important than learning literacy skills. Good communication skills could build a good social environment where learning will happen... (student teacher B, interview 1).

I believe that communication and meaning-making in Chinese literacy learning are much more important as the primary aim of language learning is to communicate. However, literacy skills are also important as they are the foundation of communication. For example, children know more Chinese characters and words. They could read books freely and communicate with others better (student teacher F, interview 1).

Effective literacy instruction should be a combination of using different materials and methods.

Data from this study showed that nearly all the student teachers disagreed with the commonly used teacher-directed teaching and rote learning methods in early Chinese literacy instruction. They preferred meaningful

and context-based literacy instruction activities. They also believed that one method does not preclude or exclude another. They supported using multiple materials and methods for early Chinese literacy instruction, including games, direct teaching, questioning, story-based approach, pictures, flashcards, action, videos, picture books, songs, poems, and worksheets.

... they use teacher-directed teaching and simply repetition methods to teach the Chinese characters from the theme, or they ask children to recite the rhymes and point to the characters simultaneously. I hope children can remember the characters through repetition... I think these kinds of activities and teaching methods are too boring. There are many materials we could use. It will be interesting if we combine teaching Chinese literacy skills and providing some chances for children to use these in their daily lives (student teacher C, interview 1).

Student Teachers' Practices in Early Chinese Literacy Instruction

Regarding their teaching practices, data from this study showed that student teachers mainly taught early Chinese literacy skills, such as character recognition, pronunciation, and writing simple characters based on stroke orders, shown in the table below, summarising the significant contents and objectives related to literacy learning (Table 1). The student teachers also tried to explain the meaning of a character and asked children to create simple phrases and sentences. However, in student teachers' teaching practices, there needed to be more meaningful communication and meaning-making in early Chinese literacy activities, such as reading books or announcements, doing records, and writing diaries or letters. Furthermore, limited literacy materials (flashcards, pictures, stories, worksheets) were used in their teaching practices. The typical early Chinese literacy instructional methods that student teachers use are rote learning, direct teaching, picture-word matching, action-word matching, recitation, and copying.

Table 1. A summary of the major contents and objectives related to literacy in student teachers' lesson

	Lesson 1	Lesson 2	Lesson 3
Student teacher A	Story-Character recognition-sentence	Story-Character recognition and writing	Story-Character recognition-sentence
Student teacher B	character recognition	character recognition	character recognition
Student teacher C	character recognition	character recognition	character recognition
Student teacher D	character recognition, pronunciation and writing	character recognition, pronunciation and writing	character recognition, pronunciation and writing
Student teacher E	character recognition, pronunciation and writing	character recognition, pronunciation and writing	character recognition, pronunciation and writing
Student teacher F	Story-Character recognition	Story-Character recognition	Radical of Chinese characters

It was summarised by researchers based on the lesson plan and class observations.

Relationship between Student Teachers' Beliefs on and Practices in Early Chinese Literacy Instruction

Data from this study indicated that the relationship between student teachers' beliefs and practices in early Chinese literacy instruction could have been more consistent. During lesson plans, analysis and class observation, all the student teachers in this study tried hard to transfer what they had learned from the course training into their lesson plans and then transform it into their teaching practices. For example, they used some games or combined the words and characters with children's daily experiences. However, after comparing student teachers' beliefs in the first interview with the major contents of literacy instruction in their actual teaching practices, we found some discrepancies between them.

There were discrepancies between student teachers' beliefs and practices, which means they could not fully practice what they preached, and the discrepancy degree varied from person to person. The study identified three possible reasons for the discrepancies: (i) student teachers found it easier to use direct teaching and rote learning to design and conduct a lesson. (ii) The kindergarten's curriculum and onsite supervisors highly influenced their teaching practices. (iii) They had limited abilities in designing and conducting an ideal lesson, or they were nervous, so they needed to remember some procedures in their lesson plans.

The following extracts could confirm the results:

I planned to use multiple materials and methods before. At the same time, I used direct teaching and repeating strategies at the end as the time was too tight for me to design a creative lesson. Direct teaching is much easier for me to design and conduct a lesson (student teacher E, interview 3).

I learned to use multiple instructional methods and materials in literacy teaching. At the same time, I must follow the curriculum in the kindergarten, and I observed what and how my onsite supervisor did in literacy instruction. I just followed what she did (student teacher B, interview 3).

My onsite supervisor suggested I do... (student teacher D, interview 3).

Some things could be more consistent between my lesson plan and teaching practices, as I had the wrong expectation of the children. I noticed they could not fully understand me, so I must stop and repeatedly repeat (student teacher C, interview 5).

5. Discussion

The findings confirmed the viewpoints of other researchers that the teachers' beliefs were not always consistent with their teaching practices [1,42]. From the findings of the 'Relationship between student teachers'

beliefs on and practices in early Chinese literacy instruction', the study identified the passive and active factors for the inconsistency of teachers' educational beliefs and practices.

The influence and limitations of tight teaching schedules, school-based curricula and practice mainly caused the passive factors. In Macao local kindergartens, each subject domain lesson is about 30 minutes. Thus, all participants of this research had to work against the time constraint in fulfilling the learning outcomes through various learning activities in 30 minutes. Student teacher E claimed the time constraint led to her choice of direct teaching as it is more accessible for her to design and conduct the lesson. Student teacher C had to stop progressing with her lesson plan as some students could not understand. Besides, all participants abided by the school-based curricula; whether these curricula and practices aligned with their beliefs, the student teachers were obliged to carry them out. However, these concerns also apply to in-service teachers as they abided by the time limitation, national/school-based curriculum and practice (e.g., play-based approach, a coordination learning method for Chinese literacy). It is because the pedagogical decision is a complex issue involving the interactions between teachers' educational beliefs, students' preferences in learning and participation methods [46]. Therefore, the study suggests that passive factors are the unavoidable issues that both pre-and-in-service teachers must deal with in the Macao context.

The active factor is related to the autonomic choice of the student teachers. A local school-based onsite supervisor and a university-based university supervisor supervised the participants. While university supervisors encourage trials of various learning and teaching techniques, the onsite supervisor could have a more direct influence on the student teachers. Such as student teachers B and D mentioned that the onsite supervisors' modelling or suggestion directly impacted their pedagogy choice even though they were equipped with various techniques. Albeit the complexity of the pedagogical decision interplay, the participating student teachers demonstrated their flexibility and determination in manoeuvring between their beliefs and limitations.

For example, student teacher E had to follow the 'meals' lesson topic as the school curriculum had set. She needed to teach four sets of Chinese vocabulary recognition to K3 children, including 'breakfast' (zǎocān 早餐), 'lunch' (wǔcān 午餐), 'dinner' (wǎn cān 晚餐), and 'menu' (cān dān 餐單). Since the school used the 'Coordinate Learning Method' for Chinese vocabulary recognition (using X and Y grids to indicate the target vocabulary), student teacher E was also required to use this method in the lesson regardless of what she thought of the effectiveness of the method. However, she had managed to build in some other activities that could align with her educational beliefs, such as starting the lesson with the 'Goldilocks and the Three Bears' story to introduce the concept and names of different mealtimes. She also used the pictures from the story to

prompt the matching to the vocabulary before finally using the Coordinate Learning Method to reinforce the learnt mealtime concept and vocabulary. In this lesson, even though student teacher E encountered the passive factors, she could still try out a couple of activities and make appropriate arrangements to accommodate the needs important to her educational beliefs and students' learning [46]. As such, the study is convinced that student teachers can have the autonomy to exercise their educational beliefs and practice under the constraints of time, supervisors, and curricula [47].

The findings revealed that the passive and active factors for the inconsistency of student teachers' beliefs and practices are essential for teacher training in Higher Education. With the acknowledgement that pedagogical decision is complex, we now know passive factors are unavailable [44], at least in the Macao context. Therefore, university supervisors can enforce less than 100% consistency in the student teacher's beliefs and practices. Instead, the study suggests university supervisors liaise with the onsite supervisors and encourage student teachers to exercise their autoionic choice by trying out activities that can align with the school-based requirements (passive factors) and exercise their beliefs. So that pre-service teachers can learn to overcome the difficulty of translating concepts learned in methods courses into their classrooms [47].

6. Conclusion

The findings from this small-scale study suggest that more operational activities (such as designing lesson plans and conducting micro-teaching) should be used during the course training for the BED students to support them in better transferring their beliefs into teaching practices. Besides, the exchange and communication of educational beliefs between the university supervisor and onsite supervisor should be strengthened during student teachers' teaching practices so that they can put their educational beliefs into practice more smoothly. Finally, student teachers are encouraged to exercise their automatic choices whenever possible to transfer their beliefs into their teaching practices to make their early Chinese literacy instruction more interesting and effective. Although the process might be complicated, it should be the direction of professional development as a teacher.

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