



Research paper

Chinese student teachers' beliefs and the role of teaching experiences in the development of their beliefs

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H I G H L I G H T S

- Chinese student teachers hold contradictory teacher- and pupil-centred beliefs.
- Three roles of teaching experiences are distinguished in belief development.
- Teaching experiences mostly confirm student teachers' teacher-centred beliefs.

A R T I C L E I N F O

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A B S T R A C T

In this study, eight Chinese student teachers' beliefs and the role of teaching experiences in their belief development were explored using qualitative approaches. Within- and cross-case content analyses indicate that, first, most student teachers held both pupil- and teacher-centred beliefs, and some of these beliefs contradicted each other. Second, three types of processes were identified describing the role of teaching experiences in student teachers' belief development: belief confirmation, belief change and belief elicitation. Most often, experiences confirmed student teachers' teacher-centred beliefs, which resulted in all of the student teachers in our study being more teacher-centred after their internships.

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1. Introduction

'During this internship, I realized that I need to put pupils first in teaching. Teaching is not about what I am saying, not about showing how good my English is, nor about how perfectly I can teach. It is not about me. I now hope pupils could be part of it. It is more about pupils' learning and practising. Let them do more (in education)'.

Interview excerpt of Ella

'However, now (after the internship), it changed my thinking: if pupils want to make me angry in my teaching, they can. I won't care about them anymore. ... There are 50 pupils in one class. I

cannot pay attention to everyone. It is your (i.e., pupils') own decisions to learn or not. If you want to learn, you need to follow me. If you don't, you can stay behind. Although I don't want to give up on you, it is your decision if you want to give up on yourself. I cannot change it'.

Interview excerpt of Jenny

These excerpts were taken from interviews with Chinese student teachers about their teaching beliefs after their two-month internships in a secondary school. These student teachers passed the same national entry examination and studied at the same department in the same teacher education programme and were supervised by the same teacher educator during their internships in the same school. However, they seem to have (developed) quite different beliefs on how to teach: Ella's beliefs are more pupil-centred, while Jenny's beliefs are more teacher-centred. Pupil-centred beliefs signify that someone sees teaching as facilitating pupils' learning in an environment with teacher-pupil relationships

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based on equality (Olusegun, 2015), whereas teacher-centred beliefs imply that someone sees teaching as knowledge transmission within a hierarchically structured relationship (Richter et al., 2013).

What might be the origin of the divergence in Ella's and Jenny's teaching beliefs? Many studies suggest possible answers to this question. For example, Moodie (2016) found that student teachers learned from their prior learning experiences what they should not do in class as teachers. Other studies have shown the important role of teacher education programmes in the (development of) student teachers' teaching beliefs (e.g., Ye & Zhao, 2019). Furthermore, the role of experiences in teaching has been discussed by several scholars (e.g., Beijaard, Meijer, & Verloop, 2004; Flores & Day, 2006; Izadinia, 2013; Kagan, 1992; Lamote & Engels, 2010; Mattheoudakis, 2007; Megawati, Mukminatien, Anugerahwati, Indrayani, & Unsiyah, 2020). Some studies showed how student teachers' teaching beliefs were reflected in their classroom teaching and that teaching experiences could bring student teachers to change their teaching beliefs (e.g., Borg, 2018; Megawati et al., 2020; Ng, Nicholas, & Williams, 2010). These studies demonstrated that teaching experiences might play a role in student teachers' beliefs. Other studies (e.g., Gu, 2016; Mattheoudakis, 2007), however, reported that teaching beliefs were *not* reflected in the teaching experiences and that teaching experiences hardly changed student teachers' beliefs.

Back to the excerpts of Jenny and Ella. They both live, learn, and (will) teach in the Chinese National Exam System. Within this system, teacher-centred teaching strategies are considered to be more efficient for obtaining higher scores on exams than pupil-centred teaching approaches (Kirkebaek, Du, & Jensen, 2013; You, 2018). In a traditional Chinese Confucian culture, harmony in 'the embrace of inescapable hierarchy' is a common belief (Gabrenya & Huang, 1996, p. 310). This is reflected in education as a close relation but also as unequal distributed power between teachers and pupils (Hofstede, 2011; Hofstede, Hofstede, & Minkov, 2010); i.e., teachers and pupils are group members, but teachers have more power than pupils in teaching and learning (teacher-centeredness). However, educating student teachers to fully engage with pupil-centred beliefs are goals of teacher education programmes around the world (see Boyadzhieva, 2016; Krahenbuhl, 2016), and China is no exception. Since 2001, the Chinese government has implemented 'quality-oriented education' (i.e., valuing pupils to construct knowledge and to be active learners), thus advocating pupil-centred beliefs and diminishing the influence of 'exam-oriented education' (i.e., focusing on knowledge transmission and pupils passive learning) [see the *Outline of the Curriculum Reform for Basic Education (trail)*, Ministry of Education, 2001]. In Chinese educational policies, it seems to be assumed that strengthening pupil-centred beliefs coincides with reducing teacher-centred beliefs. Although pupil-centred beliefs have been promoted for approximately two decades, studies on Chinese education show that pupil-centred beliefs seem to be 'borrowed' from the West and that it is difficult to bring these beliefs into practice (see Tan, 2016; You, 2018). In most classes, content-based knowledge transmission and the high authority of teachers still prevail (You, 2018).

Pajares (1992) stated that individuals' beliefs are context- and culture-related and are difficult to change because '*individuals have a tendency to build causal explanations surrounding the aspects of those beliefs*' (p. 317). Chinese (student) teachers are confronted with teacher- and pupil-centeredness and might thus hold contradictory beliefs in regard to teacher- and pupil-centeredness. In their teaching experiences, they might also struggle with these beliefs when they recall these beliefs while teaching (Blömeke et al., 2015). For example, Zhu, Valcke, and Schellens (2010) found that Chinese teachers wanted to be facilitators for pupils' learning in a relationship based on equality, but at the same time, they

expected pupils to have respect for teacher authority in the classrooms.

In the current study, we investigated teaching beliefs before and after internships of eight Chinese student teachers (including Ella and Jenny) who experienced teacher education at the same university, conducted internships in the same secondary school, and were supervised by the same teacher educator during their internships. We also collected data on their expectations about teaching to explore the role of their teaching experiences in the development of their teaching beliefs. We wanted to answer the following questions for these eight student teachers:

- To what degree are the beliefs of Chinese student teachers pupil-centred or teacher-centred?
- What roles do student teachers' teaching experiences play in the development of their beliefs?

Exploring these questions will provide insight into, first, the variation in beliefs and belief development of student teachers encountering the same context and same culture, which can help not only teacher educators but also student teachers become aware of the possible contradictions between teacher- and pupil-centeredness in their belief systems. Second, insight into the role of teaching experiences in belief development might help teacher educators better understand how to facilitate student teachers' acceptance of and engagement in the teaching beliefs advocated by their educational programmes. Third, a focus on Chinese student teachers is valuable in understanding the challenges of bringing 'borrowed' beliefs from other countries (i.e., in this study, pupil-centred beliefs from the West) into a different culture.

2. Theoretical framework

2.1. Understanding student teachers' beliefs

The importance of teachers' beliefs for their professional development has been examined by many researchers (e.g., Civitillo, Juang, & Schachner, 2018; Fives & Buehl, 2008; Pajares, 1992; Parker & Brindley, 2008; Stuart & Thurlow, 2000; Richardson, 2003; Wan, 2016), but there is no consolidated theory on teachers' beliefs (Civitillo et al., 2018). Beliefs have been defined from different philosophical perspectives (Parker & Brindley, 2008), and a clear definition of teachers' beliefs has not been generally accepted. Teachers' beliefs, for example, could be understood as their knowledge about their subject matter (see Brickhouse, 1990; Cady & Rearden, 2007; Phipps & Borg, 2009), their understanding of how to teach (see Bhattacharyya, Volk, & Lumpe, 2009; Wan, 2016), their moral values connected to being a teacher (see Karimnia & Jamadi, 2019; Patrick, Bodine, Gibbs, & Basinger, 2018), and their understanding of how to interact with pupils (see Aus, Jögi, Poom-Valickis, Eisenschmidt, & Kikas, 2017; Berger, Girardet, Vaudroz, & Crahay, 2018). Given our interests in the current study, we focused on teachers' beliefs about their classroom teaching, i.e., their judgements and values about what teachers and pupils *should* or *should not* do in the classroom teaching situation.

Studies have identified two types of teachers' classroom teaching beliefs according to the teaching approaches and environments that the beliefs reflected: pupil-centred and teacher-centred (e.g., Al-Balushi, Ambusaidi, Al-Balushi, Al-Hajri, & Al-Sinani, 2020; Rich, 2021). As stated above, pupil-centred beliefs reflect involving pupils in their teaching and conducting active teaching learning approaches in the classroom with teacher-pupil relationships based on equality (Ambusaidi & Al-Balushi, 2012; Al-Balushi et al., 2020; Olusegun, 2015). On the other hand, teacher-centred beliefs reflect teachers conducting transmission-oriented teaching approaches

within a hierarchically structured relationship without considering pupils' interests and needs (Rich, 2021).

Pupil-centred beliefs are advocated in Chinese educational policies and in teacher education programmes. For example, in the policies of *New Curriculum Reform* (Ministry of Education, 2001), teachers are requested to conduct learning through questioning in their teaching, i.e., interact frequently with pupils by asking questions. Then, according to pupils' answers, teachers apply different strategies to assist them in conducting deep learning. Additionally, from the website of a Teacher Education University in China, it appeared that one of the teacher education goals is to encourage student teachers to conduct inquiry and interest-based learning. Conducting learning through questions and inquiry and interest-based learning require teachers to understand and accept pupil-centred beliefs (Ambusaidi & Al-Balushi, 2012). However, Chinese student teachers still have been immersed in a teacher-centred context, for example, through their previous learning experiences as pupils (Gu, 2004; Yan, 2006) and current exam systems (Kirkebæk et al., 2013; You, 2018). These teacher-centred beliefs might even have been advocated implicitly or explicitly by their teacher educators (Zhu, 2010). Although Chinese student teachers can be expected to have pupil-centred beliefs because of their teacher education and educational policies, they can be expected to have teacher-centred beliefs because of their previous learning experiences and current contexts.

The relations between teacher-centred and pupil-centred beliefs are under debate. For example, Elen, Clarebout, Léonard, and Lowyck (2007) argued that *'pupil-centeredness and teacher-centeredness are not the extremes of a continuum but are dimensions. The dimensions teacher-centeredness and pupil-centeredness are not independent but closely related'* (p. 114). You's work (2018) supported that pupil- and teacher-centeredness are two parallel lines in China. However, multiple studies have described teachers standing at different positions on a continuum from a humanistic (i.e., pupil-centred) to custodial orientation (i.e., teacher-centred) (Baeten, Dochy, Struyven, Parmentier, & Vanderbruggen, 2016; Komatsu, Rappleye, & Silova, 2021).

Our interest in this study is understanding the degree of Chinese student teachers' beliefs on pupil- and teacher-centeredness. We, therefore, assume that Chinese student teachers hold both pupil-centred and teacher-centred beliefs and that the degree of adherence to these beliefs may vary between individual student teachers (see also Cheng, Cheng, & Tang, 2010). These differences might influence the development of student teachers' beliefs and their teaching experiences. Let us take as an example a pupil asking an unexpected question during a lesson. When teachers hold more teacher-centred beliefs, they might consider the question a challenge to their authority and feel that pupils should not challenge their authority. However, when teachers hold more pupil-centred beliefs, they might appreciate the pupil's question because they consider asking questions fruitful in the pupils' learning process; thus, pupils should ask questions in class.

We used pupil-centeredness and teacher-centeredness as our perspectives to analyse the eight Chinese student teachers' beliefs and compared their beliefs before and after their internship. Insight into the beliefs and the changes during their internships from these two perspectives might help better understand current Chinese student teachers' development and diagnose whether Chinese student teachers are confronting contradictions in their belief systems.

2.2. Roles of teaching experiences in developing teachers' beliefs

Relations between teaching experiences and teachers' beliefs have been studied substantially (e.g., Beijgaard et al., 2004; Izadinia,

2013; Kagan, 1992), and the role of teaching experiences in student teachers' beliefs is under debate (see the review study of Borg, 2018; Buehl & Beck, 2014; Fang, 1996). On the one hand, studies have shown that teaching experiences can make student teachers recognize how the class reality compares to their expectations and might make student teachers experience cognitive dissonance (Beauchamp & Thomas, 2009, see also; Ng et al., 2010). Such cognitive dissonance can contribute to changes in their belief systems. For example, student teachers who want to apply learning through questioning or inquiry approaches in their teaching (an aspect of pupil-centeredness) might, when they teach, perceive that pupils cannot regulate their own learning and, as a result, might infer from that they have to lead pupils to learn. They, therefore, change their beliefs from more pupil-centeredness to teacher-centeredness. Ng et al. (2010) demonstrated that student teachers' teaching experiences, especially their first-time teaching experiences, *'dramatically challenged'* (p. 278) their beliefs. On the other hand, some studies argue that teaching practices hardly change student teachers' beliefs. For example, Mattheoudakis (2007) compared the beliefs of student teachers who had teaching experiences with those who did not have these experiences and found a low impact of teaching experiences on the development of their beliefs.

The opposing findings on the role of teaching experiences in developing teachers' beliefs might be caused by different definitions of beliefs and applying different methodologies in investigating teaching experiences (Borg, 2018). As stated above, we understand student teachers' teaching beliefs as their judgements and values about what teachers and pupils *should* or *should not* do in the classroom teaching situation. Given our interest in the role of teaching experiences in the development of student teachers' beliefs, we study student teachers' teaching experiences as their expectations about what *should* or *should not* happen when they were teaching in classes.

3. Methods

The relation between Chinese (student) teachers' beliefs and their teaching experiences has been examined previously (e.g., Gu, 2016; Lin & Reinders, 2019; Zhang & Hu, 2010; Zheng & Borg, 2014). All of these studies discussed the difficulties in investigating beliefs in the Chinese context. For example, Gu (2016) mentioned that social desirability might have limited the validity of data on teachers' beliefs in their study, e.g., teachers might have chosen what they felt would be the *right* answer in the questionnaire but not have provided their actual beliefs. Zhang and Hu (2010) pointed to the influence of top-down conceptualizations in Chinese teachers' teaching experiences, i.e., teachers might teach what they were asked to teach by national-level teacher manuals. To avoid such problems in the quality of the data, we decided not to explore the relation between beliefs and experiences by asking directly about their beliefs but via indirect qualitative approaches, i.e., self-understanding interviews and emotional incident interviews. We will further discuss these indirect approaches below (see the Data Collection).

3.1. Context

In Chinese teacher education, once student teachers enter a teacher training programme at the university level (i.e., four-year training programme), they study subject-related knowledge and skills (e.g., Chinese, Mathematics, History, and English) in the university for three years. At the beginning of the fourth year, student teachers engage in a two-month internship in primary or secondary schools, which is arranged by their universities.

3.2. Participants

Eight student teachers in their fourth year of study in the same department (Foreign Languages) of a Chinese teacher university were approached, and all of them were willing to participate in the study. They all signed an informed consent agreement form prior to participation. The eight student teachers worked as interns in the same secondary school, and this school also approved and supported our data collection. Further characteristics of the participants are offered in Table 1.

3.3. Participants' learning environments

A university teacher educator supervised the eight student teachers' teaching and learning in the school. The teacher educator from the university attended one lesson of each participant and then discussed with the student teachers how to improve their teaching. From the fieldnotes of the first author's observations, it appears that these discussions mostly referred to the lesson content. In addition, the school assigned an experienced teacher as a mentor teacher to each of the student teachers. All of the participants started their internships with two weeks of classroom observation in their mentor teachers' grade-10 English-as-second-language classes having on average 50 pupils and then replaced their mentor teachers for six weeks. Based on the field notes of the first author regarding the teachers' teaching approaches, pupil-teacher relationships, and time schedule of the school, we concluded that traditional teacher-centred beliefs were prominent in the school culture. We conducted a member check (Birt, Scott, Cavers, Campbell, & Walter, 2016) wherein the university teacher educator verified our description of the school culture (see Appendix A for the conclusions from the field notes and the teacher educator agreement).

3.4. Roles of researchers

The first author's role during data collection can be described as being an outsider because she did not participate in the teacher education programme of the participants; she had no involvement in evaluating the participants or discussing the data with the teacher educator, the mentors, or the participants. During data analysis, her role can be characterized as being an insider. Being a native Chinese speaker graduated from the same teacher education university as the participants helped to better understand the participants, the teacher education programme procedures, and the culture. The other authors were 'outsiders' during the data collection. They supervised throughout all study phases the first author and contributed to the design, analyses and reporting of the study.

3.5. Data collection

3.5.1. Data about teaching beliefs

Research has shown that student teachers' beliefs can be mirrored in their self-understanding of how to be a teacher (Beijaard et al., 2004; Lee & Schallert, 2016). Therefore, in the current study, we collected data on the eight participants' self-understanding of being a teacher to infer from these their beliefs. Self-understanding of being a teacher (shortened as SUT) is a personal and situational ongoing process of (student) teachers' perception of how to be a teacher (Beijaard et al., 2004; Lee & Schallert, 2016). Beliefs are related to all aspects of self-understanding of being a teacher, such as understanding subject matter, instruction, pedagogy, interpersonal relations, and professional commitment (Beijaard et al., 2004; Kieschke & Schaarschmidt, 2008; van der Want et al., 2015). We conducted

interviews about all these aspects of being a teacher. Prior to conducting the actual SUT interviews, we piloted the interview questions with three Chinese PhD students who already had some teaching experience. No changes to the interview questions were called for by the SUT pilot results.

The self-understanding of being a teacher interview prompted the student teachers to describe their understanding of what teachers and pupils *should* or *should not* do in education, including their understanding of being a good or bad teacher (with questions such as, *What is your opinion on a good/bad way of teaching? What kind of relationship do you want to have with your pupils?*). Their plans for the future (questions such as, *What kind of teacher do you want to become? What goals do you want to achieve in your teaching career?*); their self-image (questions such as, *How do you conceive of yourself as a teacher?*); and their professional commitment (questions such as, *Do you feel satisfied to be a teacher?*). The SUT interviews were conducted twice: before the internship (the pre-SUT interview) and after the internship (the post-SUT interview). All of the SUT interviews lasted approximately an hour for all participants with the exception of Krystal, for whom the pre-SUT interview took approximately 2 h.

3.5.2. Data about participants' expectations of teaching experiences

Teaching experiences in this study were the incidents that triggered the student teachers to realize their emotions during teaching [i.e., what Tripp (1993) referred to as emotional incidents]. Student teachers' emotions in teaching can be related to their expectations in teaching: positive emotions can arise when the situation in a class is consistent with their expectations, and negative emotions can arise when inconsistency occurs (see Allas, Leijen, & Toom, 2017; Pekrun, 2006). Teaching experiences that trigger student teachers' emotions could prompt student teachers to develop their beliefs when they realize (explicitly or implicitly) the dissonance or consistency between the teaching reality and their expectations (Beauchamp & Thomas, 2009; Beijaard et al., 2004). Therefore, we conducted interviews about the emotional incidents in teaching to infer their expectations in their teaching experiences.

Emotional incident interviews (EI interviews) were conducted with the help of stimulated-recall methods (Schepens, Aelterman, & Van Keer, 2007). The first author video-taped three lessons for each participant (one at the beginning of their internships, one in the middle, and the one at the end of their internships) and conducted stimulated-recall interviews directly after the lesson had taken place. In this stimulated-recall interview, the first author instructed the participants to select the incidents that made them experience an emotion or change of emotion during their teaching. Then, once participants had selected an incident, the first author stopped the video and investigated their descriptions of the incidents by asking questions such as: *Can you tell me what was happening in the classroom?* and *Can you tell me what you were thinking about at that moment?* were asked. After selecting all the experiences that triggered emotions, the interviewer asked participants to select three incidents that impressed them most.¹ Each lesson lasted 45 min, and the EI interviews lasted between 60 and 90 min.

The first author conducted all the interviews in Chinese, which were voice-recorded with the permission of the participants, and the voice-recording was transcribed by a Chinese research assistant. All interviews were conducted in a comfortable and private office.

¹ Experiences wherein emotion was triggered by watching the video were excluded.

Table 1
Participant information.

Name ^a	Gender	Teaching experiences
Jenny	Female	Volunteer teacher in a poor area during the summer holiday once
Mary	Female	Volunteer teacher in a poor area during the summer holiday once
Lily	Female	No teaching experience
John	Male	Volunteer teacher in a poor area during the summer holiday once; visited schools and observed teaching in Taiwan
Anna	Female	No teaching experience
Ella	Female	No teaching experience
Lucy	Female	No teaching experience
Krystal	Female	Volunteer teacher in a poor area during the summer holiday once

^a Names are fictitious.

3.6. Data analysis

Open coding (Given, 2012) was used to discover the different beliefs that the participants held. Fig. 1 summarizes the analytical procedures in the study. Below, we will elaborate on these procedures in more detail.

3.6.1. Beliefs in student teachers' SUT interviews

Because of the complexity in student teachers' answers, we first built an SUT profile for each SUT interview of all student teachers to obtain an overview of all the aspects of their self-understanding of being a teacher and then inferred the underlying beliefs reflected in their SUT profiles.

SUT profiles. To capture an encompassing view of self-understanding, we coded the SUT interviews in terms of five categories based on prior research: subject matter, instruction, pedagogy, interpersonal relationships, and professional commitment, also including subcategories (see Appendix B). Based on the coding, a pre-SUT and a post-SUT profile was written for each student teacher.

Beliefs reflected in the SUT profiles. We identified beliefs reflected in the SUT profiles as the participants' judgements on what they and their pupils should or should not do in education. For example, Jenny in her pre-SUT profile felt *it was important to have sufficient knowledge*, thus reflecting her beliefs that *teachers should have sufficient knowledge*. Descriptions in the profiles that did not reflect a judgement about teaching (e.g., Mary mentioned *the importance of finding a job near her parents*) were excluded.

Beliefs viewed from the perspectives of teacher-centeredness and pupil-centeredness. We categorized for every student teacher the beliefs in pre- and post-SUT profiles into two categories: teacher-centred and pupil-centred beliefs (see Table 2 for the criteria and examples for coding teacher- and pupil-centred).

In our analyses, some beliefs could not be categorized as pupil- or teacher-centred, e.g., John's prebelief *'pupils should make effective use of learning time, especially the time in the morning'*. Such beliefs were excluded from the analyses. Then, we compared the number and content of the beliefs in the pre- and postprofiles within each case and summarized the changes in their beliefs in terms of teacher and/or pupil-centeredness.

3.6.2. Emotions and expectations in student teachers' EI interviews

The three teaching experiences selected by student teachers as having made the greatest impression during their teaching were included in the analyses (N = 59). We summarized the student teachers' emotions and expectations in these experiences. For example, Jenny chose an experience appointing a girl to answer her questions. In her description of the incident, she emphasized that

the girl did not respect her, which made her feel angry. We summarized her emotion as *'negative'* and her expectation of the incident as *'pupils should not disrespect her'*.

3.6.3. Role of teaching experiences in belief development

For each student teacher, an overview was created of all beliefs before and after the internship and all expectations of the teaching experiences triggering emotion.

The participants' expectations of their selected teaching experiences were the departure in this analysis. These expectations were characterized with a topic based on its contents (e.g., lesson plan, pupils' learning approaches, pupil-teacher relationship, classroom management, etc.). This topic then was guiding to seek a connection of the teaching experiences with beliefs in the pre- and post-SUT interviews. For example, in Anna's selected teaching experiences, her pupils did not answer her questions, whereas she had expected they would. Her expectation in this experience was that *'pupils should answer teachers' questions in class'* and referred to the topic: pupils' learning approaches. This topic could be seen in her pre-SUT interview as a belief about pupils' learning: she said, *'Pupils should conduct self-directed learning'*. We did not see a pupil-centred belief about this topic in her post-SUT interview, but she mentioned a teacher-centred belief: *'Pupil should follow their teachers' instruction'*, which we consider contradicting her pre-SUT belief on pupil self-directed learning. Thus, it was reasonable to assume that her teaching experiences had contributed to the changes in Anna's beliefs; therefore, we coded a change from pre-SUT belief to post-SUT belief and that the teaching experience had contributed to this change.

It was established for every teaching experience how it was connected to the student teacher's beliefs before and/or after the internship in terms of teacher- and pupil-centeredness (see examples in Fig. 2 below). All of the expectations of teaching experiences, except one from Krystal,² could be related to the beliefs before or after the internship and mostly both before and after (N = 58). Findings on the changes were summarized per case and subsequently compared across cases. Three types of processes were distinguished describing the role of teaching experiences in student teachers' belief development: 1) confirming a belief, 2) changing a belief, and 3) eliciting a belief. More details will be described in the findings section.

3.6.4. Quality control of the analyses

Three rounds of audit procedures (Akkerman, Admiraal, Brekelmans, & Oost, 2008) were conducted to ensure the quality of the analyses: one for the SUT interview analyses, one for the EI interview analyses, and the other for the role of teaching experiences in belief development.

To guarantee the transparency of the SUT analyses, we conducted an audit procedure with the help of two Chinese-speaking researchers (i.e., auditors) of four randomly selected profiles. The results of the audit trial showed that the auditors agreed with the SUT profiles. To verify the trustworthiness of the EI interview analyses, four randomly selected experiences (raw data) were provided to a Chinese researcher to conduct the analyses independently (Cohen, Manion, & Morrison, 2002), i.e., to identify the summary of the participants' emotions and expectations. Then, the findings of the summaries of the independent researcher and the first author were compared. The researcher noticed some disagreements with English expressions (e.g., 'time-control in

² Krystal described a teaching experience involving her mentor teacher, but in her self-understanding of being a teacher, no belief was identified on her relationship with her mentor teacher.

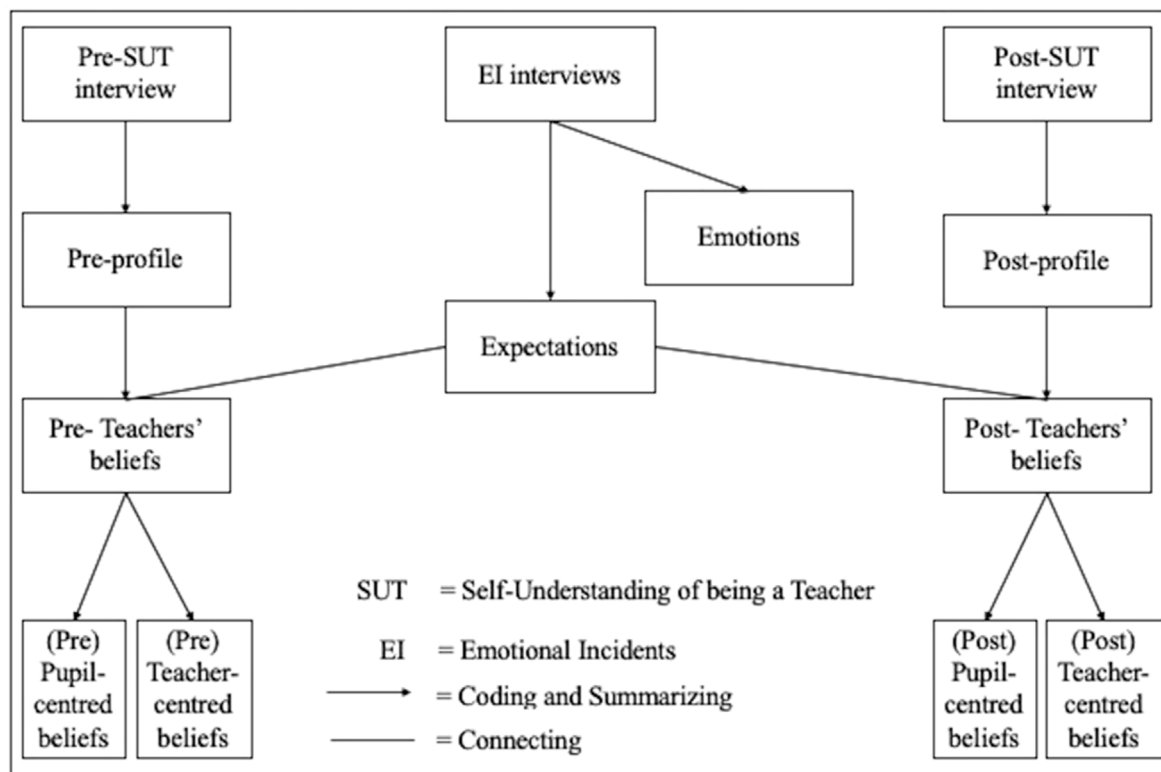


Fig. 1. Analytical framework in this study.

Table 2
The criteria and examples for coding teacher- and pupil-centeredness.

Category	Criteria	Examples
Teacher-centeredness	Beliefs emphasizing transmission teaching approaches and hierarchical relationship with pupils,	<ul style="list-style-type: none"> - Teachers should teach exactly according to their teaching plan - Teachers should be the leader in their teaching. - Pupils should follow their teachers' instruction. - Pupils should respect their teachers
Pupil-centeredness	Beliefs emphasizing facilitating pupils' learning and relationship with pupils based on equality.	<ul style="list-style-type: none"> - Teachers should be equal with their pupils. - Teachers should change their teaching procedures according to pupils' reactions in class. - Pupils should be able to learn independently.

teaching' was suggested to be rephrased as 'classroom management in teaching'), but she agreed on all identified emotions and expectations. To ensure the clearness of our findings about the roles of teaching experiences in belief development, an auditor randomly selected one participant and checked our analyses and our conclusions (i.e., verifying the analytical steps in and between the pre- and post-SUT profiles, the belief analyses, development of beliefs, expectations in the EI interviews, and connections between the teaching experiences and beliefs in pre- and/or post-SUTs). The auditor agreed that all analyses were systematic and transparent, and our conclusions were adequately grounded in the data.

4. Findings

4.1. Beliefs in student teachers' self-understanding of being a teacher

The beliefs identified for the eight student teachers before and after the internship can be found in Table 3 below.

Table 4 summarizes for each student teacher the frequency with which their beliefs before and after the internship referred to

teacher- and pupil-centeredness.

In most student teachers' beliefs (six out of eight, not for Jenny and Krystal), teacher-centeredness and pupil-centeredness appeared to coexist before the teaching experiences, and some of these beliefs seemed to contradict each other. For example, for six student teachers, we found a conflict between wanting to adapt teaching procedures according to pupils' reactions (an orientation to pupil-centeredness) and pupils to follow teachers' instruction or respecting their teachers (orientation to teacher-centeredness). Mary, Anna, and Ella felt that teachers should facilitate pupils' self-directed learning and that teachers should be equal to pupils, thus representing pupil-centred beliefs, but mentioned in the same interview that it was important for teachers to have control in class. Mary felt that teachers should be leaders in teaching, Anna thought teachers should be strict with pupils, and Ella thought teachers should have a detailed teaching plan and teach as the plan, all representing teacher-centred beliefs³.

After their teaching experiences, not only Jenny and Krystal but

³ The other two teaching experiences are excluded: one is the experience from Ella, and the other is from Krystal (see footnote 2).

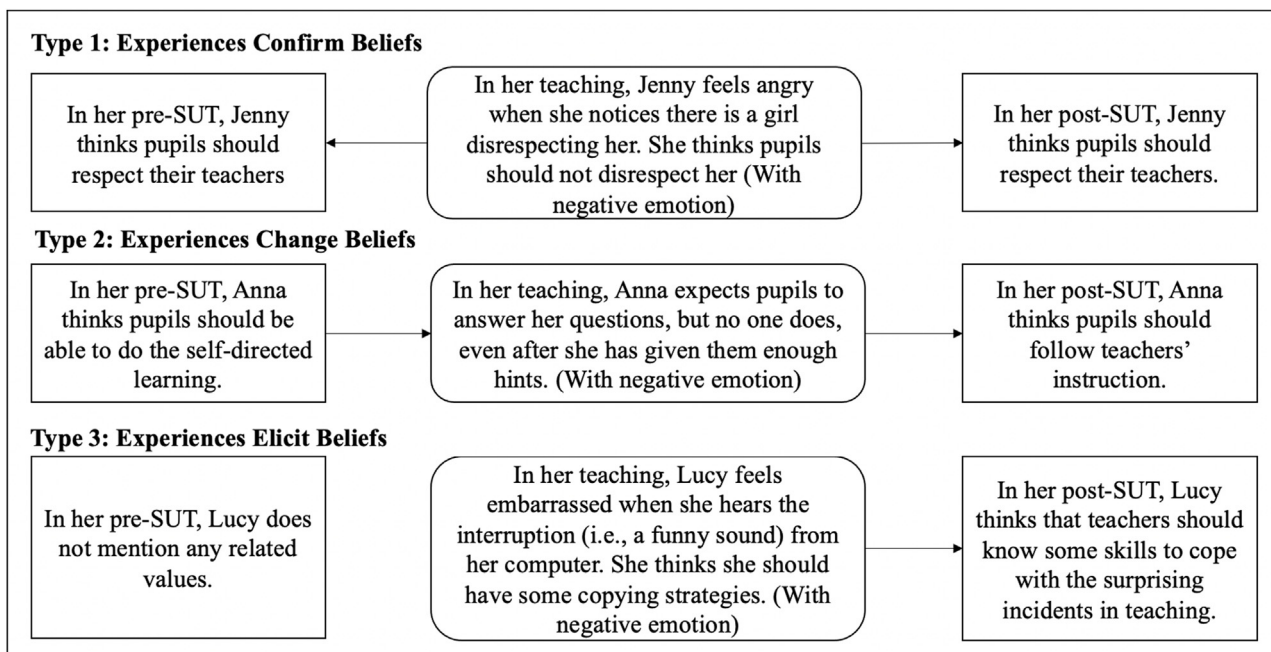


Fig. 2. An example of each type of the connection between beliefs and teaching experiences.

also Mary, John, and Lily did not mention any pupil-centred beliefs. For instance, John addressed the importance of pupils' interests in his pre-SUT, while after teaching, John mentioned that pupils should follow teachers' instructions rather than their own interests. Before teaching practices, most student teachers (six of eight, not Krystal and Lucy) showed beliefs such as 'teachers should not pay much attention to pupils' scores'. However, after their teaching experiences, the importance of pupils' scores was strengthened in the SUTs of all student teachers. For Anna, Ella, and Lucy, teacher-centredness and pupil-centredness still coexisted in their belief systems after teaching. For example, Anna reflected a belief in her post-SUT that 'teachers should create a relaxed learning environment for pupils to speak and communicate in a free but also respectful way'. In addition to the excerpt from Ella's post-SUT interview at the beginning of this paper, which reflected a pupil-centred belief, Ella also mentioned that 'teachers should be the leader in teaching and pupils' learning', a teacher-centred belief.

4.2. Beliefs before and after the internship

From Table 3, it can be concluded that in terms of the number of references, all student teachers except Jenny and Krystal became more teacher-centred or less pupil-centred after their teaching practice. The content of the beliefs indicated that after their teaching experiences, all of the student teachers showed less attention for their lesson plans, less trust in pupils' learning abilities, more confidence in their transmission teaching capacities, including their classroom management skills, and more concerns about pupils' respect and obedience in class. Thus, all student teachers can be considered to have become more teacher-centred after their internships. Below, we illustrate the belief development of Jenny and Ella as examples.

Jenny, before her teaching experience, strongly valued teaching plans. In the interview, she mentioned that 'I will write down the whole teaching plan. For example, I will write down what I would say in class, and what pupils would answer in class'. In addition, in her understanding of teaching, pupils should follow their teachers' teaching, especially pupils with low academic achievement (i.e.,

having low test scores). She mentioned that 'I, as their teacher, would not want to lose these pupils (in teaching). Thus, they need to follow my teaching procedure in class'. Regarding teacher-pupil relationships, Jenny emphasized pupils' respect. She said: 'When you, as a teacher, pass the classroom, pupils should say "Hello! Teacher!" to you, right?' After her teaching experiences, Jenny's understanding of being a teacher became slightly different. For example, she emphasized teaching plans less because 'teaching the key knowledge in the textbooks would be enough'. Additionally, she described teachers as 'knowledge transmission machines', and stated that pupils should adapt themselves to teachers' teaching. 'If they don't, I won't care anymore', she said in the postinterview.

Ella, before her teaching practice, showed more pupil-centred than teacher-centred beliefs. She mentioned, 'It is bad to teach pupils to accept knowledge passively,' and 'it is better to ask pupils to learn by themselves'. Regarding the relationship with pupils, she mentioned, 'I want to be their (i.e., pupils') friend'. After her teaching experiences, Ella still showed pupil-centred beliefs, but she referred much more often to teacher-centred beliefs. She said, 'It is a good classroom atmosphere when all of the pupils follow my teaching to think along with the teaching contents', and 'it is important for teachers to have control in teaching'. About the relationship with pupils she said, 'During this internship, I realized that it was impossible to have a very close and friendly relationship with pupils because you (teachers and pupils) have different roles. Between teachers and pupils, there is a natural conflict, which could not be changed For pupils, you are the teacher. You are the one assigning homework to them. For them, you are the authority'.

4.3. Role of teaching experiences in process of student teachers' belief development

Among the 58 teaching experiences that could be connected with pre- and/or postbeliefs, 49 experiences were selected as emotional incidents because of negative emotions, seven showed positive emotions, and two were without specific emotions (from Lucy and Lily).

One of Ella's experiences could be connected with her prebeliefs

Table 3
The beliefs of the eight student teachers (*Bold are the beliefs mentioned in both student teachers' pre and post-SUT).

Name	Beliefs reflected in Pre-SUT profiles	Beliefs reflected in Post-SUT profiles
Jenny	<p>Teachers should ... have sufficient knowledge to teach; be a role model of pupils; put a lot of efforts to teaching; keep a distance from pupils; prepare a detailed teaching plan; teach as detail as the plan; make sure pupils would not be a criminal in the future; put teaching first; teach some learning skills to pupils; pay more attention to pupils with lower scores; teach different contents to pupils in different levels; apply some strategies to attract pupils' attentions; be liked by their pupils.</p> <p>Pupils should ... respect their teachers; not make any comment on their teachers' teaching; not sleep in class; learn independently by doing a lot of paper exercises.</p>	<p>have sufficient knowledge to teach; be a role model of pupils; put a lot of efforts to teaching; keep a distance from pupils; spend less time on teaching plan but focus more on their personal development; not teach many details but only the key knowledge in textbooks; become a machine to transfer knowledge to pupils; pay more attention to pupils with higher scores; not damage pupils' self-esteem; put more attention on personal development.</p> <p>respect their teachers; not make any comment on their teachers' teaching; not sleep in class; learn independently by doing a lot of paper exercises; adapt themselves to teachers' way of teaching.</p>
Mary	<p>Teachers should ... have a teaching plan; teach as the teaching plan; be the leader in teaching; not judge pupils only based on scores; be responsible to pupils; change teaching procedure depending on pupils' reaction; motivate pupils to answer questions; teach in a humorous way to attract pupils' interests in learning; be equal and patient to pupils; not conduct any physical punishment to any pupils.; not impact pupils' peer-relationships;</p> <p>Pupils should follow teachers' instruction; be afraid of their teachers; have positive learning attitudes; conduct self-directed learning; have a good mental state; manage the disciplines by themselves.</p>	<p>have a teaching plan; teach as the teaching plan; be the leader in teaching; not judge pupils only based on scores; be responsible to pupils; change teaching procedure depending on pupils' reaction; motivate pupils to answer questions; have sufficient knowledge; keep learning; have clear disciplines in teaching; conduct proper physical punishment to pupils if pupils do not learn; work hard; involve pupils' parents to monitor pupils' emotion in learning; help pupils to have higher scores; be trusted and be popular among pupils.</p> <p>follow teachers' instruction; be afraid of their teachers; have positive learning attitudes.</p>
John	<p>Teachers should ... have sufficient knowledge to teach; have a detailed teaching plan; make sure the disciplines, orderliness, and clearness of the classroom is good; be a role model; be trusted and liked by pupils; use multiple teaching approaches to motivate pupils to learn; use different approaches to teach pupils in different levels; contribute to the development of society; pay more attention on what pupils like, rather than their scores; help pupils to discover their own interests.</p> <p>Pupils should respect their teachers; make effective use of learning time, especially the time in the morning.</p>	<p>have sufficient knowledge to teach; have a detailed teaching plan; make sure the disciplines, orderliness, and clearness of the classroom is good; be a role model; be trusted and liked by pupils; use multiple teaching approaches to motivate pupils to learn; use different approaches to teach pupils in different levels; not fully trust pupils that they can learn independently, but at a certain level; work hard and be conscientious on teaching; use scores to evaluate pupils.</p> <p>respect their teachers; follow their teachers' instruction; work hard to have higher scores.</p>
Lily	<p>Teachers should ... have sufficient knowledge to teach; have a teaching plan; help pupils to have higher scores; not evaluate pupils only based on scores; be liked and be patient to pupils; teach some learning skills to pupils; teach some social skills to help pupils to be a better person; give some pressure to pupils to make them work hard; encourage pupils to be active in learning; guide pupils to learn independently; use different approaches to motive pupils to learn.</p> <p>Pupils should respect their teachers; follow their teachers' instructions; discover and develop their own interests.</p>	<p>have sufficient knowledge to teach; have a teaching plan; help pupils to have higher scores; not evaluate pupils only based on scores; be liked and be patient to pupils; teach some learning skills to pupils; teach some social skills to help pupils to be a better person; teach in a comprehensive way, i.e., teach the exam-related knowledge comprehensively; work hard to help pupils to get high scores; pay attention on emotional development; know the importance of reading; create a relaxed and attract learning atmosphere for pupils' learning.</p> <p>respect their teachers; follow their teachers' instructions; answer teachers' questions actively</p>
Anna	<p>Teachers should ... use diverse teaching approaches to teach pupils in different levels; be friendly to pupils; have sufficient knowledge to answer pupils' questions; be strict to pupils for good (i.e., for pupils' development); help pupils to be a better person; be a role model; ask questions to pupils to facilitate pupils to interact with teaching contents; not evaluate pupils only based on scores; be equal with pupils.</p> <p>Pupils should have good learning attitudes; have good learning strategies; be able to do the self-directed learning.</p>	<p>use diverse teaching approaches to teach pupils in different levels; be friendly to pupils; have sufficient and accurate knowledge; have a teaching plan; notice the importance of reading for pupils' learning; know the importance of pupils' scores in national exams; work hard to attract pupils to work hard to pay back; know some skills to cope with the tension between being disciplined and being boring in teaching; collaborate with pupils' parents; put pupils at first; be patient to pupils; create a relaxed learning atmosphere for pupils to speak and communicate in a free but also respectful way; encourage pupils to find their own dreams/ideals.</p> <p>have good learning attitudes; have good learning strategies; follow their teachers' instructions; actively answer teachers' questions in class, then teacher can know how to teach these pupils; respect their teachers; know their dreams/ideals in the future; have good moral characteristics.</p>
Ella	<p>Teachers should ... have sufficient knowledge to teach; be a role model; not hurt pupils' self-esteem; be trusted by pupils; be helpful to pupils; have a detailed teaching plan; contribute to the achievement of pupils; contribute to the development of society; develop themselves by keeping learning; work hard; be flexible in teaching and bring fresh ideas to pupils; lead pupils to discuss with each other; lead pupils to do self-directed learning; not bring too much pressure to pupils by asking pupils to do a lot of paper exercise; not judge pupils only based on their scores.</p> <p>Pupils should have his/her own opinions on teaching content and express them out during discussion in class; be able to conduct self-directed learning.</p>	<p>have sufficient knowledge to teach; be a role model; not hurt pupils' self-esteem; be trusted by pupils; be helpful to pupils; keep their authorities in relation to pupils; be the leader in teaching and pupils' learning; contribute to the achievements of pupils; apply some teaching strategies; teach in an understandable way to attract pupils' interests in learning; consider different pupils' learning attitudes in teaching; apply different teaching strategies; help pupils to develop their own interests.</p> <p>respect their teachers; follow their teachers' instructions; actively answer their teachers' questions; know how to think, how to learn; have interests in at least one subject.</p>
Lucy	<p>Teachers should ... have sufficient knowledge; have teaching plans; know the importance of pupils' scores; be a role model; apply different strategies to motivate and attract pupils' interests in learning; be liked, helpful and trusted by pupils; encourage pupils to show their opinions and understanding out; pay attention on the emotional goal in English articles; contribute to the development of society; use different approaches to teach pupils in different levels.</p> <p>Pupils should follow their teachers' instructions; have positive learning attitudes.</p>	<p>have sufficient knowledge; have teaching plan; know the importance of pupils' scores; be a role model; apply different strategies to motivate and attract pupils' interests in learning; be liked and trusted by pupils; encourage pupils to show their opinions and understanding out; teach as same as their teaching plan; have authority in relation to pupils; be able to control the class; work hard and be conscientious to work.</p> <p>follow their teachers' instructions; answer their teachers' questions actively.</p>
Krystal		

Table 3 (continued)

Name	Beliefs reflected in Pre-SUT profiles	Beliefs reflected in Post-SUT profiles
Teachers should ...	have sufficient knowledge to answer pupils' questions; teach in a systematical way, i.e., have a teaching plan, and teach as same as the plan; have the authority in relation to pupils; be able to make sure that pupils follow their instructions and be the leader in teaching; care about pupils' personal life; apply some strategies to motivate/attract pupils' attention on learning; be liked and trusted by pupils; be strict and even conduct proper physical punishment to pupils; focus on the needs of majority pupils in teaching but pay some attention to the needs of minority pupils after teaching; take responsibility to pupils' development; the importance of pupils' scores.	have sufficient knowledge to answer pupils' questions; teach in a systematical way, i.e., have a teaching plan, and teach as same as the plan; have the authority in relation to pupils; be able to make sure that pupils follow their instructions and be the leader in teaching; care about pupils' personal life; motivate/attract pupils' attention on learning; be liked and trusted by pupils; collaborate with pupils' parents; give certain freedom to pupils; teach in an understandable and humorous way.
Pupils should	respect their teachers; answer teachers' questions actively; follow the disciplines in class; have positive learning attitudes	respect their teachers.

Table 4

Frequency of beliefs emphasizing teacher-centeredness and pupil-centeredness before and after the internship.

Name	Teacher-centred beliefs		Pupil-centred beliefs	
	Before	After	Before	After
Jenny	6	5	0	0
Mary	8	10	4	0
John	5	6	1	0
Lily	6	6	2	0
Anna	2	6	3	1
Ella	1	9	5	4
Lucy	5	7	1	1
Krystal	10	7	0	0

but not her postbeliefs, which can be explained by the following: 1) the experience might have made Ella disapprove of a belief, or 2) she simply forgot to mention the belief in her SUT interview after the teaching experiences. The other 57³ teaching experiences either confirmed a belief (Type 1), changed a belief (Type 2), or elicited a belief (Type 3). Fig. 2 shows an example of each type including the emotion the student teacher experienced, and Table 5 shows the frequencies of the three types of processes found in our data.

Table 5 shows that Experiences Confirming Beliefs occurred most frequently (45 out of 57, including 37 negative experiences, six positive experiences, and two experiences without specific emotions) and with all of the participants. In this process, beliefs mentioned in the pre-SUT were confirmed in the teaching experiences and then appeared again in the post-SUT. All confirmed beliefs were teacher-centred beliefs. For example, Krystal had negative emotions (surprised and confused) when she found that pupils did not know how to correctly pronounce English words and she thought their teachers should have taught them before. This teaching experience could be understood as confirming her teacher-centred prebeliefs that pupils should follow teachers' instruction and teachers should be the leader in teaching. In Krystal's post-SUT, we saw the same beliefs.

Table 5

Frequency of three types of process.

Name	Confirmed beliefs	Changed beliefs	Elicited beliefs
Jenny	5	3	0
Mary	8	1	0
John	7	1	0
Lily	4	0	0
Anna	5	2	1
Ella	5	1	0
Lucy	6	0	3
Krystal	5	0	0
In Total	45	8	4

Experiences Changing Beliefs were found eight times, and only Jenny, Mary, John, Anna, and Ella changed Beliefs through teaching experiences; all of these experiences brought negative emotions to the student teachers. These changed beliefs in the post-SUT interview were all teacher-centred. An example is Mary's valuing before teaching that teachers should not punish pupils. During her teaching, Mary was surprised and angry when two pupils did not listen to her at all. This experience might have changed her attitude toward physical punishment in allowing teachers to conduct some punishment because as she said in her post-SUT, 'Otherwise, pupils would not listen (to their teachers) and learn from their misbehaviour'.

Experiences Eliciting Beliefs were only found with Anna and Lucy in total four times (a positive experience was reported by Anna, and the other three were with negative emotions). When this process appeared, the participants were triggered by their teaching experiences and might start to realize the importance of certain beliefs, such as having strategies for coping with surprising incidents (see Fig. 2, the example of Lucy) and pupils answering teachers' questions actively (in Anna's postbeliefs). These beliefs were always teacher-centred.

The interaction between teaching beliefs and teaching experiences differed between different participants even when they had selected similar teaching experiences. For example, Jenny and Ella had similar teaching experiences in their classes: pupils asking questions but they, as teachers, did not know the answer. Jenny's expectation was that 'teachers should not lose authority in front of pupils', while Ella thought differently: 'teachers should not give wrong answers to pupils'. Their follow-up behaviour also differed: Jenny gave an incorrect answer, but Ella told pupils that she did not know the answer for now and would check the answer later.

5. Conclusion and discussion

In this study, eight Chinese student teachers' beliefs and the role of teaching experiences in their belief development were studied with interviews conducted before and after their internships and three emotional incident interviews during their internships. We specifically framed the development of beliefs with the notions of teacher- and pupil-centeredness and then distinguished three roles of teaching experiences in the student teachers' belief development.

The findings indicate that most student teachers in this study, except Jenny and Krystal, held both teacher-centred and pupil-centred beliefs before their internships. Furthermore, some of these coexisting teacher- and pupil-centred beliefs contradicted each other, such as beliefs about offering individualized education for each pupil (pupil-centeredness) and beliefs about following teachers' instruction without questioning (teacher-centeredness). This result was in line with the study of Zhu et al. (2010) and You (2018), which also found that Chinese teachers hold both teacher-

centred and pupil-centred beliefs. Furthermore, the student teachers in our study and the teachers in [Zhu et al. \(2010\)](#) study seemed unaware of the conflict between teacher-centred and pupil-centred beliefs.

The coexisting teacher-centred and pupil-centred beliefs of our student teachers raise the question of whether these beliefs are the opposite ends of one continuum. Our results suggest that teacher-centeredness and pupil-centeredness are not opposites and could be on two continua, running from accepting to non-accepting teacher-centred beliefs and one from accepting to non-accepting pupil-centred beliefs (also see [Elen et al., 2007](#)). When teachers' teacher-centred beliefs have been strengthened, this does not imply that their pupil-centred beliefs have been reduced. Student teachers, even from the same culture and experiencing the same teacher education programme, stand on the different positions of these two continua. The coexistence of pupil- and teacher-centeredness in the student teachers' belief systems in our findings after the first three years of teacher education indicates that current teacher training may be imbued with high ideals ([O'Loughlin & Campbell, 1988](#)), which could, however, contain traditional teacher-centred beliefs and practices '*crouched behind*' pupil-centred facades ([Pajares, 1993](#), p. 47). Based on reading the goals of educational policies and teacher education programmes, it seems that encouraging student teachers in China to engage in pupil-centred beliefs and to apply pupil-centred teaching approaches is still 'rhetoric' ([You, 2018](#), p. 11) and does not substantiate in reality. Our results indicate that it might be *not* enough for teacher education and policy-makers to address only the importance of pupil-centred beliefs but that it is also necessary to pay attention to helping student teachers understand why and how teacher-centred beliefs may limit the development of sound teaching practices.

All student teachers selected from their experiences at least one incident about pupils not answering their questions or not carrying out the inquiring tasks they were assigned, which made student teachers sense negative emotions. As mentioned above, learning through questions and inquiry learning was advocated in educational policies and in the aims of teacher education programmes. However, to the student teachers' surprise, pupils did not engage in these activities, as the student teachers expected from what was taught in their teacher education programme. Following the negative emotions, student teachers did not reflect on their own teaching performance (e.g., were the questions they asked and the tasks they assigned appropriate to engage students?), but blamed pupils for not participating. They concluded that these pupils did not have the ability to answer their questions and complete their inquiry tasks. This conclusion might explain why after their teaching experiences, all of the student teachers showed less trust in pupils' learning abilities. This conclusion also indicates that the student teachers thought they had more power than pupils, so pupils should follow their instructions unconditionally. This finding is in line with Hofstede's description of the Chinese school culture, i.e., a large power distance between teachers and pupils ([Hofstede et al., 2010](#)). This finding might send an alert for teacher educators on the content of reflection in teachers' professional development (also see [Clarke & Hollingsworth, 2002](#); [Leijen et al., 2014](#)), i.e., teacher educators might need to help student teachers reflect on their own teaching behaviour in class.

The findings on the role of teaching experiences in belief development showed the difficulties for student teachers to bring in their teaching what teacher educators want them to. Student teachers' expectations of their teaching experiences mostly appeared to confirm their existing teacher-centred beliefs; these beliefs persisted after the teaching experiences (N = 45, out of 59). Pupil-centred beliefs, however, were not related to any teaching

experience, and some student teachers (i.e., Mary, John, and Lily) did not repeat any of their pre-pupil-centred beliefs after their teaching experiences. Some teaching experiences contributed to changing student teachers' beliefs (N = 8 out of 59), and all changes were to become more teacher-centred. As mentioned above, it seemed that the student teachers, with limited supervision from their teacher educators and mentor teachers, were unable to manage the behaviour of their pupils in class and did not show confidence in their pupil-centred beliefs. Therefore, teacher educators and mentor teachers could offer more instruction on classroom management strategies that are aligned with pupil-centred beliefs, and future studies can examine whether such an intervention helps student teachers preserve their pupil-centred beliefs.

Our findings about experiences confirming, changing, and eliciting beliefs indicate interactions between teaching experiences and beliefs, which support [Borg's \(2018\)](#) conclusions that the relationship is reciprocal. Furthermore, our findings showed that the interaction between student teachers' beliefs and teaching experiences can be diverse and complex even when these student teachers are in the same teacher education programme and the same (school) culture. Additionally, the findings on changes in beliefs, especially the change in pupil-centred beliefs from the pre-SUT toward teacher-centred beliefs in the post-SUT, indicate that the continua of pupil- and teacher-centred beliefs are not completely independent, as suggested by [You \(2018\)](#). In future studies, it would be interesting to further explore the diverse and complex interactions between beliefs and teaching experiences and the relation between pupil- and teacher-centeredness in the Chinese educational context and other non-Western contexts.

Our findings showed that all of the student teachers valued teacher control and authority in relation to their pupils more after their teaching experiences than before. During their internships, all student teachers (including Anna and Ella) experienced incidents in which pupils did not follow their instruction or did not understand what was being taught. These teaching experiences confirmed their teacher-centred beliefs or even changed their pupil-centred beliefs into teacher-centred beliefs. These results are in line with those in the review by [Kagan \(1992\)](#), who wrote, 'quickly disillusioned and possessing inadequate procedural knowledge, novice teachers tend to grow increasingly authoritarian and custodial' ([Kagan, 1992](#), p. 145). However, this is insufficient to conclude that the student teachers' pre-SUT beliefs were 'dramatically challenged' ([Ng et al., 2010](#), p. 278) during their teaching experiences because many Chinese student teachers in our study held already teacher-centred beliefs before student teaching. For future studies, it is interesting to try and understand student teachers' beliefs and belief development from perspectives other than pupil- and teacher-centeredness to see if any 'dramatic' changes appear.

Furthermore, their teaching experiences took place in a traditional school where exam-determined ideas were promoted, as noted in the fieldnotes. In this context, the teachers, including the mentor teachers, of the school put significant effort into improving pupils' scores through knowledge transmission. Additionally, teachers' authority was assumed to facilitate transmission. This being the case, the culture of the practice teaching school might have contributed to student teachers focusing on improving pupils' scores and therefore valuing knowledge transmission and the strong authority of teachers ([You, 2018](#)). Before their internships, the importance of pupils' scores was not protruded by most of the student teachers (six out of eight). However, after the internships, all of the student teachers addressed the importance of pupils' scores. All of these factors make the result that the student teachers became more traditional, which is *not* surprising.

In our study, all emotional incidents in teaching experiences that changed student teachers' preexisting beliefs were

experienced in a negative way. Even teaching experiences that confirmed student teachers' beliefs were loaded primarily with negative emotions. This result is partly different from previous studies (e.g., Allas et al., 2017) that indicated that positive emotions may result when teaching experiences are in line with their expectations, while negative emotions may result when teaching experiences are in conflict with their expectations. In our study, the confirmation of beliefs was accompanied by negative emotions. We offer two possible explanations for the differences in the role of negative emotions found in our and earlier studies. First, the negative emotional experiences that accompanied confirming beliefs in our study might not have been intensive enough to trigger changes in beliefs. We only investigated student teachers' teaching experiences in their two-month internships, which might be too short a period for the student teachers to experience strong negative emotions and then change their beliefs. The choice of negative emotions in the case of confirmed beliefs might even have been a result of social desirability (Gu, 2016), i.e., the student teachers might have felt they could contribute to the research if they chose incidents and explained their emotions even when they did not have strong emotional fluctuations. Second, based on our field notes, we noted that the student teachers in our study did not receive extensive supervision by their teacher educators and mentor teachers. Even when they experienced negative emotions, they were not encouraged to reflect on their own teaching behaviour and perhaps therefore mostly attributed the cause of the incidents to pupils. It seems that the impact of teaching experiences reinforces the importance of reflection on teaching behaviour in student teachers' professional development, and thus teacher educators might need to help student teachers focus their reflection on their own teaching behaviour (c.f. Timoštsuk & Ugaste, 2010).

As mentioned, the context of the teacher education programme and the internship was similar for all eight student teachers. However, every student teacher had a different mentor teacher. We do not know if or how the mentor teachers influenced the eight student teachers' belief development. For future study, this factor should be considered in student teachers' development of beliefs.

Because of the limited number of participants in the current study, we cannot generalize the findings to other Chinese student teachers' beliefs and their belief development. If the results are confirmed in a broader sample, this study can urge teacher educators and policy-makers to consider if the teaching approaches in teacher education align with the beliefs underlying the theories advocated in teacher education and educational policy and if these beliefs are compatible or incompatible with (student) teachers' personal beliefs.

Our findings indicate that Chinese student teachers might hold contradictory beliefs, and they themselves did not recognize this conflict in their belief system. It seems that the confrontation between teacher- and pupil-centred beliefs is not a problem for student teachers themselves when they are teaching, i.e., student teachers do not feel struggle between their teacher- and pupil-centred beliefs when they teach in the classroom. However, our findings about all of the student teachers becoming more teacher-centred prove the difficulties for student teachers to develop their beliefs into what teacher educators and policy-makers want them to (i.e., adapting and applying pupil-centred beliefs). We suggest that teacher educators and policy-makers address these conflicting beliefs with their student teachers to help student teachers develop their belief systems.

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Declaration of competing interest

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.tate.2021.103525>.

Data availability statement

All details on data and data analyses (including audit trails) are available upon request from the first author.

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