



“I’ve become more critical”: Development of Dutch elementary teachers’ beliefs about history and history teaching in an inquiry-based professional learning program

Yolande Potjer
University of Amsterdam, Netherlands

Marjolein Dobber
Vrije Universiteit Amsterdam, Netherlands

Carla van Boxtel
University of Amsterdam, Netherlands

ABSTRACT

This study aims to explore how elementary school teachers’ beliefs about the nature of history and pedagogical beliefs about teaching history developed over the course of a two-year professional development (PD) program and which elements of the program stimulated this development. This PD program aimed to develop participants’ skills in historical reasoning and in designing inquiry-based history lessons that encourage students to reason historically. Teachers engaged in historical reasoning and developed and implemented activities for inquiry-based learning in their history lessons. In this qualitative study, we interviewed nine teachers before and after the program, and they completed the Beliefs about Learning and Teaching History questionnaire before, during and after the program. Thematic analysis of the data shows that elementary teachers participating in our PD program developed more nuanced beliefs about history. Both epistemic and pedagogical beliefs became more crystallized and more criterialist in nature, but it is especially participants’ pedagogical beliefs that became more oriented toward inquiry into historical sources and the importance of developing historical reasoning skills in students. Our findings also indicate that more naïve ideas remained in addition to more nuanced beliefs. Participants indicated that their pedagogical beliefs about teaching history and conducting historical inquiry changed because of the program. Based on the final interviews, we identified five elements that enhanced participants’ professional development toward teaching inquiry-based history lessons and influenced their epistemic beliefs. It was the combination of engaging in historical inquiry, modeling by the facilitator, participating in group discussions about historical inquiry, searching for historical sources themselves and developing and discussing their own lesson designs and putting them into practice that made participants see the possibilities of inquiry-based history learning and stimulated the development of their beliefs. The findings of this study imply that to prepare elementary teachers to teach history in a way that fosters inquiry into historical sources and historical reasoning, PD programs and teacher education should pay attention to the epistemology of history as a discipline and provide teachers with tools to do inquiry.

KEYWORDS

Elementary teachers' beliefs, Historical reasoning, Professional development, Inquiry-based learning

CITATION

Potjer, Y., Dobber, M., & van Boxtel, C. (2024). "I've become more critical": Development of Dutch elementary teachers' beliefs about history and history teaching in an inquiry-based professional learning program. *Historical Encounters*, 11(2), 36-55. <https://doi.org/10.52289/hej11.204>

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Introduction

For elementary teachers, history is only one of many subjects they teach. Beliefs teachers hold about the nature of history and the construction of historical knowledge significantly influence what they perceive as relevant content and how they teach history (Stoel et al., 2022). Elementary teachers' beliefs, mental conceptualizations and constructs of history are usually formed by how history is presented in movies, books, museums and textbooks they read as students (Gibson & Peck, 2020). In general, elementary teachers have not engaged in historical inquiry themselves. This is problematic because history education researchers have emphasized the importance of historical reasoning activities in teaching history (e.g., Levstik & Thornton, 2018). Teachers can only teach students a disciplinary way of working with history if they themselves master these disciplinary skills to a certain extent. In the Netherlands, historical reasoning is not commonly part of the history curriculum for elementary schools. Teachers teach a ten-era framework illustrated with events and persons from the Dutch Canon. In schools that experiment with inquiry-based learning in history, a common practice is that students gather information on the internet and present this information, but due to no or limited modeling, real historical inquiry and historical reasoning are lacking, and students' understanding of historical events remains limited (Béneker et al., 2021). This can reinforce the naïve belief, both in teachers and students, that history is a single story based on a series of facts (Van Boxtel et al., 2021).

In their Interconnected Model of Professional Growth, Clarke and Hollingsworth (2002) suggest that change in knowledge, beliefs and attitude triggers change in teachers' practice while engaging in professional experimentation. A reversed influence is also possible: teacher beliefs change through experimenting with new approaches and reflecting on the effects on student learning.

In previous research on teacher beliefs about history, attention was given to how the epistemic beliefs of teachers in middle and secondary schools influence their choices in teaching history (Voet & de Wever, 2016) and how preservice teachers' beliefs about history develop (Gibson & Peck, 2020; Wansink et al., 2017). Maggioni et al. (2004) describe developments in elementary teachers' epistemic beliefs during the course of a Professional Development (PD) program on the content and method of teaching American history. In their study, shifts in epistemic beliefs after the program were limited, suggesting relative stability in teacher beliefs. A reason for this could be that the program did not specifically target participants' beliefs or their knowledge about the disciplinary methods of historians and how these translate to the classroom.

To prepare teachers in grades 3-6 (students 8 to 12 years old) to engage students in historical inquiry and reasoning, we developed a two-year PD program called 'historical reasoning in inquiry-based history lessons'. The program aimed to develop participants' skills in historical thinking and reasoning and in designing inquiry-based history lessons that encourage students to reason historically. In this paper, we present the results of a qualitative study on how elementary teachers' beliefs about history and history teaching developed during this program. We aim to contribute to theory about the professionalization of elementary teachers in the field of history education, and in particular, how participation in a PD program focusing on historical reasoning in inquiry-based history lessons influences teachers' epistemic and pedagogical beliefs.

Theoretical framework

Richardson (2003) defines beliefs as "psychological understandings, premises or propositions felt to be true" (p.2). Teacher beliefs are part of the wider belief system the teacher holds as an individual, in which individual and professional beliefs are often entangled. Within the broad spectrum of teacher beliefs, various subgroups of beliefs can be discerned: epistemic beliefs (beliefs about the nature of knowledge), pedagogical beliefs (including subject-specific beliefs about the best way to teach), student performance beliefs and beliefs about personal capacity (efficacy beliefs) (Pajares, 1992). In this paper, our main focus lies on epistemic and pedagogical beliefs.

Epistemic beliefs about history

In teaching history, teachers are (consciously or subconsciously) confronted with the inherent epistemic question "what is history?". Various models exist for mapping epistemic beliefs. Kuhn and Weinstock (2002) distinguished realist, absolutist, multiplist and evaluativist perspectives. Based on these perspectives and types of reasoning about processes of knowing identified by King and Kitchener (1994), Maggioni et al. (2004) developed a domain-specific model for teacher thinking about the nature of history and teaching and learning history including three stances: the copier, borrower and criterialist stance. Each stance reflects beliefs about how historical knowledge is constructed, the role of the knower and the certainty of historical knowledge. Beliefs that fit the copier stance see history as a reflection of the past. Therefore, history and the past are considered the same. Beliefs fitting the borrower stance see history as a series of opinions. Anyone dealing with history borrows from the testimony that seems to be closest to their image of reality in the past. In the criterialist stance, history is understood as an interpretation of the past, and the methods of historical investigation are tools to question and analyse historical sources and evaluate historical interpretations. This model can be described as a developmental framework, where students' or teachers' beliefs develop in a stage-like pattern, although this does not imply that an individual is 'in' a specific stance at a given moment. Barzilai and Weinstock (2015) combined a developmental framework with a dimensional framework and included dimensions related to, for example, the certainty of knowledge, the source or justification of knowledge, and epistemic perspectives (absolutist, multiplist and evaluativist) to describe students' epistemic beliefs.

Empirical studies show that teachers' epistemic development is never straightforward and that beliefs develop in different dimensions, in their own way and at their own speed (e.g., Stoel et al., 2017, p.122) and that development is "not unidirectional" (Maggioni et al., 2004, p. 190). Elmersjö and Zanazanian (2022) delineated how the borders between positions are diffuse, and even in a criterialist position, one can still have the unconscious belief that, when done right, history takes you to the past itself (p.184). Wansink et al. (2017) described how individuals can simultaneously hold opposite beliefs, can switch between epistemic stances or can "wobble" (p.20). Stoel et al. (2022) concluded that teachers can experience temporary relapses in a dimension, while they are overall increasing their understanding of the nature of history. In this study, we applied the model of Maggioni and colleagues, as it is domain specific, thoroughly analysed and widely used in

research into history teaching. When using this model, we consider it plausible that teachers' beliefs can be classified into more than one epistemic stance or perspective.

Pedagogical beliefs about history teaching

Pedagogical beliefs refer to teacher beliefs about (subject specific) teaching and learning. Subject-specific pedagogical beliefs are closely connected to epistemic beliefs and therefore sometimes included in measures for epistemic beliefs (Stoel et al., 2022, p.17). For example, to measure epistemic beliefs, the questionnaire of Maggioni and colleagues combines statements on beliefs about the nature of history with statements about how history should be taught (e.g., 'Students need to be taught to deal with conflicting evidence' and 'Good students know that history is basically a matter of opinion') as indicator of epistemic beliefs. In this study, we distinguish between epistemic and pedagogical beliefs. Pedagogical beliefs about what should be taught and how it should be taught filter through in the goals teachers formulate and in teaching strategies they choose (Stoel et al., 2022). Several studies (e.g., Gestsdottir, 2018; McCrum, 2013; Wansink et al., 2017) related goals of critical reasoning and multiple perspectives and interpretations to student-centered approaches. However, Voet and De Wever (2016) found that experienced history teachers who had criterialist ideas and were in favor of a more student-centered approach, focused on content knowledge, and only a few mentioned learning goals that aimed at the development of historical reasoning skills.

Inquiry-based learning in history is described in a number of studies (e.g., Van Boxtel et al., 2021; Voet & de Wever, 2016) as a promising approach to teaching historical reasoning. Potential benefits for students include a deeper understanding of how historical narratives are created, multiperspectivity, historical reasoning skills, generic literacy skills and student motivation and engagement. Even when teachers' pedagogical beliefs favour historical inquiry and historical reasoning, researchers often find a discrepancy between these beliefs and the way they teach history in practice (Gibson & Peck, 2020). According to Wilke et al. (2022), teachers may not implement inquiry-based learning because they have a poor understanding of historical reasoning or find it difficult to design learning activities that reflect the understanding of history as interpretation. Pedagogical beliefs about how a subject can or should be taught can also be influenced by beliefs about students. Priestley, Biesta and Robinson (2021) found many examples of what they call "a deficit view of children" (p.45). Expressions about students being 'able', 'bright' or 'poor', for example, influence what teachers see as possibilities in the learning of specific (groups of) students. This can lead to tension between different beliefs. Nitsche (2019 in Stoel et al., p. 22) described how "student performance beliefs, played a prominent role in actual teaching practices and might have mediated or prevented the transfer of epistemic beliefs to practice" (p. 22). Voet and de Wever (2016) showed how a teacher's disappointment with student performance convinced him that content knowledge was what counted in the end, whereas another teacher described how the goal was the combination of beliefs about objectives (that is, students need to learn the historical method) and beliefs about students' interests and abilities that made her consistently develop historical investigations.

Can professional development programs influence teachers' beliefs?

PD programs can be effective in reaching sustainable teacher development when they aim to develop pedagogical content knowledge, encompass elements of inquiry where participants are actively working together, when participants perceive the content as relevant and useful for their daily work and when the program spans a longer time period (Van Veen et al., 2012). In their empirically founded model, Clarke and Hollingsworth (2002) describe how change in teachers' beliefs (a change in the personal domain) is the result of enaction and reflection and can be related to external sources, support or stimuli, professional experimentation (e.g., in the classroom or a professional learning community) and perception of salient learning outcomes.

There are few studies on the development of elementary teachers' beliefs about history and history teaching. In their study on an elementary teacher PD program on the content and method of teaching American history, Maggioni et al. (2009) observed that participants remained relatively stable in their epistemic beliefs and concluded that epistemic beliefs need to be explicitly targeted in PD and that participants also need repeated exposure to ideas about the nature of history and its implications for history teaching. However, existing studies with secondary teachers or undergraduate students that explicitly targeted beliefs about history and history education (e.g., Van Sledright & Reddy, 2014; Wansink et al., 2017) concluded that PD programs often lead to epistemic "wobbling" rather than to sustained epistemic development. This was especially the case when participants already had strong cognitive frames, for example with history connected to self-identity, when teachers were confronted with different aspects of teaching history (transferring knowledge as opposed to stimulating historical thinking) and when (prospective) teachers had had little opportunity to practice historical thinking and inquiry.

Van Boxtel et al. (2021) discuss several elements of PD programs that can prepare teachers for inquiry-based learning in history lessons. Engagement in historical inquiry was found to improve understanding of history and positively affect teachers' beliefs about learning outcomes of inquiry-based history learning. Modelling turned out to be important because observing and participating in inquiry gave teachers ideas for their own classrooms. Receiving information about the effects of inquiry on history learning and literacy skills was important for teachers to see relative benefits compared to traditional teaching approaches.

Aim of the study

This paper addresses the research question: How does a PD program in which elementary school teachers learn to reason historically and develop skills to design inquiry-based historical reasoning lessons influence participants' epistemic beliefs about history and pedagogical beliefs about history teaching?

Method

Participants

Nine teachers from six elementary schools in the Netherlands enrolled in a two-year PD program on historical reasoning in inquiry-based history lessons (see Table 1). The names we use are pseudonyms. The ethics committee of the University of Amsterdam approved the data collection. All participants hold a bachelor's degree in education. In addition, Oscar holds a master's degree in history. Participants taught in grades 3 to 6 and, on average, had 11 years of experience. The teachers chose to participate voluntarily.

Table 1

Participants in the study

Participant	Grade	Age	Years of experience
Nicole	3	63	26
Jack	3	34	9
Dylan	4	31	4
Kathie	4	26	4
Rose	5	53	13
Lois	5	28	3
Evelyn	6	41	19
Oscar	6	39	9
Tara	6	38	11

Professional development program

We designed a PD program based on scientific literature concerning effective professional development of elementary teachers, inquiry-based lessons and historical reasoning. The program consisted of fourteen 2.5-hour meetings spread over two school years. The first author was the facilitator and actively participated in the meetings. Due to the COVID-19 pandemic during the first year, meetings three to six were online. Table 2 summarizes the content. During each meeting, theoretical background about historical reasoning and inquiry was offered. Topics were chosen by the facilitator or requested by participants. In every meeting, participants received historical source material and engaged in historical inquiry. This involved collaboratively corroborating and comparing sources and coming to a substantiated conclusion about the question at hand. In some cases, participants were encouraged to search for additional historical sources.

Aspects of the nature of history that were connected to these historical inquiry activities were discussed, but they were not always explicitly dealt with (as would be the case in a historical research methods course) - the focus was always on classroom practice. After each inquiry activity, participants discussed how they could adapt this for their own students. Additionally, during each meeting, participants had time to design classroom activities, following the topics they were to cover in the upcoming period. During the first year, participants developed one or two lessons. During the second year, they developed at least three lessons that they implemented in their classrooms. Participants were actively involved in all parts of the meeting, either as active partakers in inquiry, as active learners when new information was shared and discussed and as teachers talking about how an activity could be adapted for their students.

Table 2

Content of the PD meetings

Pedagogical Content Knowledge	
Year 1	Introduction to historical reasoning framework Use of primary historical sources Types of inquiry-based learning Historical contextualizing: what, how, when Dealing with students' misconceptions
Year 2	Generating historical questions Searching, choosing and adapting primary historical sources Scaffolding historical reasoning activities Thinking like an historian Role of teacher in lessons: coaching skills Enhancing historical argumentation in classroom discussion
Historical reasoning activities	
Year 1	Responses to the Spanish flu and COVID-19: identifying continuity and change Cinnamon trade in Sri-Lanka (Ceylon): identifying causes & consequences Resistance to slavery in the Dutch West-Indies: identifying similarities and differences Labor conditions in textile-factories in the 19th century: identifying multiple perspectives Promoting students to ask historical questions: photos and paintings
Year 2	John Smith on Pocahontas: corroborating historical sources Mad Tuesday: identifying causes & consequences Revolt of the Batavi: adapting textbook-lessons to include historical reasoning Floodings in Dutch history: use of eyewitness accounts Dutch response to the independence of Indonesia: causes & consequences, multiple perspectives and change & continuity

Data collection

To identify development in participants' beliefs about history and history education and what participants perceived as sources for their professional development, we collected data using two instruments: in-depth individual pre and post interviews and the Beliefs about Learning and Teaching of History (BLTH) questionnaire (Maggioni et al., 2004, Dutch version adapted by Havekes, 2015). Table 3 illustrates at which moments during the program these data were collected.

Table 3

Planning of data collection

Instrument	Premeasurement 1st month - 1	End year 1 11th month	End year 2 23rd month
Interview	x		x
BLTH questionnaire	x	x	x

Interviews: The semi-structured interview contained questions on teachers' beliefs about the nature of history (epistemic beliefs), objectives of history education, pedagogical approaches and inquiry-based learning activities (pedagogical beliefs) and professional development. Questions were partly based on instruments developed by Voet and de Wever (2016). Questions focusing on the nature of history were, for example, "Can you tell me, in your opinion, what is history?" and "It is possible that two historians, when studying the exact same historical sources, reach (partly) different conclusions. How can this be explained?" Questions regarding pedagogical beliefs about inquiry learning were, for example, "What is the goal of inquiry learning in history?" and "In your lessons, how do you enhance historical reasoning in your students?" In the post interview, we also asked participants what they learned and how the PD program contributed to their professional development. For example, "What in the program enhanced your development?" The interview guideline is included in Appendix A. The premeasurement interview took approximately 45 minutes, and the post interview took approximately 1.5 hours.

Beliefs about Learning and Teaching of History Questionnaire: We used a Dutch translation of the BLTH questionnaire (Maggioni et al., 2004) that consists of 22 questions (Havekes, 2015). Participants filled in the questionnaire individually immediately after the premeasurement interview and at the end of the final meeting of each year (seventh and fourteenth meeting).

Analysis

All interviews were fully transcribed. The transcriptions were coded using a coding scheme based on our theoretical framework, supplemented with themes that were derived from the answers in the pre interviews. The coding scheme (see Appendix B) consisted of five main codes, but for the scope of this study, we focus on four main codes: beliefs about general goals of teaching elementary school history; beliefs about the nature of history and how historians work; goals and experience with inquiry-based history teaching activities; professional development and sense of agency. With the last category, we only use the subcode 'sources of professional growth'. The unit of analysis was an utterance.

To investigate intercoder agreement, a second coder coded transcriptions of three interviews (one premeasurement and two final interviews). After each coding session, we calculated Cohen's kappa (see Table 4). After each session, choices were discussed, and agreement was reached on how to interpret and code certain units. In the third parallel coding session, we reached a Cohen's kappa of 0.75, which is considered sufficient interrater reliability for coding interviews.

Table 4

Intercoder agreement

Interview	Proportion of agreement	Cohen's kappa
Premeasurement (79 segments)	63,3%	0,56
Final interview 1 (63 segments)	79,4%	0,76
Final interview 2 (88 segments)	77,3%	0,75

In the next step in our analysis, using the coding and comparing the pre and post interviews, we identified changes in epistemic and pedagogical beliefs.

The interview data were supplemented with data from the BLTH questionnaire. As we only had nine participants, we used a qualitative approach in the analysis of the BLTHQ. We made individual overviews showing how participants scored items connected to a copier, borrower and criterialist stance and compared how the teacher scored on premeasurement, mid-measurement and post measurement. Statements from the BLTHQ were associated with the main codes related

to epistemic and pedagogical beliefs to find similarities and differences between what participants said during interviews and how they filled in the questionnaire. We made a descriptive portrait for each participant, combining the two datasets. We chose to describe two portraits in the findings, because these two participants exemplify a specific development profile.

Findings

Development of elementary teachers' epistemic and pedagogical beliefs about history

During their participation in the PD program, participants' beliefs about history and how history should be taught became more nuanced and more oriented toward historical inquiry. Table 5 shows the number of teachers who pronounced a certain belief, goal or experience during the interview before and after the program.

Table 5

Beliefs, goals and experiences pronounced by participants in interviews before and after the PD program

Main categories	Subcategories:	# teachers in interview 1	# teachers in interview 2
1. Beliefs about general goals of teaching elementary school history			
	Development of historical time	7	4
	Development of historical knowledge	8	9
	Development of historical skills	9	9
	Understanding and explaining the present	8	8
3. Beliefs about the nature of history and how historians work			
	History equals the past: copier	6	0
	History is a set of opinions: borrower	2	5
	History is a construct based on criteria: criterialist	3	6
	Investigating historical sources	9	9
	Contextualization	6	5
	Multiperspectivity and historical empathy	9	9
	Historical reasoning	4	1
4. Beliefs about goals and own experience with inquiry-based history learning			
	Inquiry into historical sources	7	8
	Historical reasoning skills	5	9
	General reasoning skills	6	9
	Role of the teacher during IBL	7	9
	Challenges with IBL in history	5	9
	Students' behavior or motivation	9	9

Even though there was little change in how many participants spoke about goals for teaching history in the pre and post interview, their descriptions of goals related to historical skills became more detailed. For example, in the post interview, Lois mentioned looking at an event from different perspectives, thinking about causes and consequences, selecting and comparing information from historical sources, thinking about similarities and differences, and zooming in

and out. In addition, she spoke about how to corroborate historical sources and how to formulate historical questions.

Table 6

*Response to the BLTH questionnaire***

Participant	stance	Pre: Σ points/stance	Mid: Σ points/stance	Post: Σ points/stance
Nicole	COP	15	23	21
	BOR	28	29	38
	CRI	33	41	42
Jack	COP	13	10	11
	BOR	22	25	23
	CRI	35	34	32
Dylan	COP	12	15	13
	BOR	32	28	27
	CRI	37	37	37
Kathie	COP	13	12	12
	BOR	30	32	30
	CRI	37	34	40
Rose	COP	13	13	10
	BOR	25	31	26
	CRI	39	39	42
Lois	COP	13	*	12
	BOR	31	*	24
	CRI	41	*	38
Evelyn	COP	10	6	6
	BOR	17	30	37
	CRI	42	39	43
Oscar	COP	13	15	15
	BOR	30	23	28
	CRI	45	41	42
Tara	COP	10	7	6
	BOR	19	17	18
	CRI	32	31	27

* No data due to maternity leave

** Sum scores based on Likert-scales

Most apparent are changes in the number of teachers who said things connected to the nature of history and the historical research method (main category 3). Whereas in the first interview six participants (Dylan, Evelyn, Jack, Kathie, Nicole and Tara) pronounced copier beliefs about history and the nature of historical knowledge, none pronounced such ideas after the program. Apparently, participants realized over the course of the program that history is not a series of fixed facts. Clearly standing out as well is that where only three participants outed beliefs connected to a criterialist stance during the first interview (Lois, Oscar and Rose), in the final interview, three additional participants (Dylan, Evelyn and Jack) formulated ideas connected to this stance. It is important to note the increase from two (Dylan and Kathie) to five participants (Dylan, Evelyn, Kathie, Nicole and Tara) who expressed beliefs connected to the borrower stance. These results indicate that the program made participants realize that the analysis of historical sources is important in historical research, that many sources are based on human witnesses and

that opposing testimonials exist. However, most participants appeared not fully aware of the disciplinary tools historians use to analyse historical sources and build evidence. Dylan and Evelyn, for example, expressed both borrower and criterialist ideas in the post interview.

Standing out in the interview results as well are the number of teachers who expressed goals for and experiences with inquiry-based history teaching (main category 4). This is shown by the increase from five teachers saying things connected to historical reasoning skills before the program (mainly that in history thinking about causes and consequences is important) to all nine sharing their knowledge and experiences with trying to promote historical reasoning in their students. Connected with these experiences are challenges that all participants described in the final interview.

The results of the BLTH questionnaire (Table 6) also show that the development of participants is not unidirectional. For all participants, the general score on statements connected to criterialist stance beliefs about history and teaching history was, at all three measurements, highest of all stances. To interpret the results of the BLTHQ in light of the interview data, we connected these datasets in a descriptive portrait for each of the participants.

Evelyn and Rose exemplify two profiles that show how epistemic beliefs about history and pedagogical beliefs about teaching history develop. In these profiles, we see that participants simultaneously expressed beliefs connected to different epistemic stances and that scores on statements in the BLTHQ can be the opposite of expressions in the interview.

Profile 1 includes participants with copier and borrower beliefs about history and uncrystallized criterialist beliefs at the start of the program, who came to understand how difficult history is, epistemically. Participants in this profile scored high on statements in the BLTHQ connected to criterialist beliefs, but in the interviews they had a hard time explaining historical inquiry or how elements of this inquiry are done. They developed richer and more nuanced ideas during the program but also misconceptions about every historical narrative being equally valid. Considering their pedagogical beliefs, teachers in this group developed more explicit ideas about doing inquiry in history lessons. Dylan, Evelyn, Kathie, Nicole and Tara fit this profile.

Profile 2 encompasses participants with beginning or already more explicit criterialist ideas about history and history teaching at the start of the program, even if they also demonstrated copier and borrower beliefs. In the course of the program, they tended to develop richer criterialist beliefs and very explicit ideas about inquiry by students in history lessons. Jack, Lois, Oscar and Rose fit this profile.

Profile 1: Evelyn

As Evelyn recalls in the final interview, the beliefs she had about history and how historians work before the program can be characterized as copier stance beliefs: "This was what history was and that's it". Because of the program, history has become more alive for her. In the post interview, she remarked, "You start looking at it in a different way. The past is how it is, but history changes because, for example, new sources are found." Regarding the work of historians, she remarks, "I think that with the knowledge they possess, they continue linking, broader and deeper. To discover more of what happened and how things happened. I don't know if they follow a step-by-step method." She suggested that historians' "own background and values influence how [they] interpret new knowledge. [...] For example, slavery: when slavery is part of your family background you look at historical sources about this differently than someone who has nothing to do with it." This corresponds with her high score on statements in the BLTHQ connected to criterialist stance beliefs, especially on the importance of comparing sources and looking for author subtext. Concerning a method or criteria for historical research, Evelyn speaks about inquiry into sources, comparing them and substantiating interpretations with arguments. This is mirrored by her high score in the BLTHQ, where history is a likely reconstruction of events in the past based on available sources. Evelyn did not, however, mention concrete criteria for how such inquiry should be done. In the final interview, she struggled with the idea of historical research. Her remark: "it is more how people interpret history and document it", shows she realized that

interpretations play an important role, but how? She said she realized that “everything has only been written or thought of by people, so it is not necessarily true. You must realize that it is not a fixed thing but recorded by people from different angles.” After the PD program the results of Evelyn’s BLTHQ still indicate high criterialist stance beliefs about history. However, the results also show her increase in borrower stance beliefs about the nature of history, for example, on statements describing historical narratives being a matter of interpretation or the result of historians’ choice.

Evelyn’s beliefs about how history should be taught develop from “telling the story how it has been” before the program to having students do active inquiry. She explained how before the program, she used to read a source as an illustration in her lesson, but it never occurred to her to give students sources to study. “I was afraid that students would interpret it in a different way. Now, I discovered that is a good thing, because [then] you can follow students’ line of thinking.” She also mentioned inquiry skills, such as asking questions and knowing how to come to an answer, comprehensive reading to be able to identify causes and consequences, studying sources and learning to deal with different points of view in them and formulating conclusions based on their inquiry. After the program, therefore, Evelyn’s pedagogical beliefs indicated criterialist beliefs about teaching history. At the same time, her scores on statements connected to borrower stance sharply increased, especially on the statement saying students need to be aware that history is a matter of opinion.

Profile 2: Rose

In the interview before the program, Rose described history as something that is studied and “changes all the time.” When asked about the method of study, she says: “I am sure there is a method, even though it doesn’t have to be fixed steps. Historical sources are important: they will study them and compare them with other sources and discuss them.” She continued: “they will have hypotheses that they test and further study. You cannot just make a narrative if you are not completely sure. You must substantiate it.” Consistent with this are the high scores of Rose’s first BLTHQ on criterialist stance beliefs about history. In the post interview, Rose said that she had become more critical and more aware. History is “an interpretation of the past, which you have to substantiate and connect to sources and then of course reliable sources.” Different sources should be compared. “You must realize who wrote them and that you are always dealing with interpretations. The source can be the same, but there is always some measure of subjectivity in the interpretation. [...] That’s how you get differences.” These realizations about the complexity of historical research were mirrored in her increasing scores on the BLTHQ statements that a historical narrative is the result of a domain-specific research method and that one can write adequately about history, even with conflicting evidence.

When considering Rose’s beliefs about how history should be taught, in the first interview, she already mentioned the importance of inquiry in history lessons. “Many skills are linked [to history]: critical thinking, good reading, making connections, cooperating, finding information and presenting.” In the post interview, Rose described how she used to focus more on basic knowledge students had to acquire, but during the program, she realized that “you have to look at the relationship between events and what was the consequence of something and how were things in another place.” In the BLTHQ, we see this shift in the decrease of her score on the copier-related statement that good general reading and comprehension skills are enough to learn history well.

In the post interview, Rose was more detailed about the inquiry skills students should learn in history lessons: “formulating inquiry questions [...] and making a step-by-step plan of how to do the inquiry. Children also need tools with which they can investigate the question.” Students also need to “argue, reason and think logically. Which sources are there, are they reliable and how do they relate to each other? How to deal with two sources that do not correspond?” Rose also mentioned historical reasoning skills: “[thinking about] similarities and differences, continuity and change, multiperspectivity and causes and consequences.” In the BLTHQ, the development of Rose’s more nuanced beliefs about how to teach history can be seen in her increasing score on teaching students to deal with conflicting evidence and her high score on teaching students to

compare sources and look for author subtext as essential components of the process of learning history.

The PD program as a source of professional growth

In the post interview, participants reflected on elements of the PD program that enhanced their professional growth. Participants mentioned five major sources of professional growth in their development toward teaching inquiry-based history lessons. All five are connected to pedagogical content knowledge that was aimed at during sessions of the PD program (Table 2). First, all participants mentioned collaborative inquiry. Rose, for example, explains that what truly helped her were “the exercises we worked on and how we used historical sources ourselves.” The collaborative inquiry can be seen as a form of professional experimentation that acts as a stimulus to develop knowledge, beliefs and attitudes of the participants themselves. A second source of growth were discussions. Dylan explains: “After the exercises, we discussed about historical reasoning skills that we had practiced and how we could translate this to elementary school.” In the discussions under guidance of the facilitator, experiences and theory about historical reasoning and inquiry-based learning and school practice were connected. Searching and using historical source material as part of the development of lessons (professional experimentation) was a third source of growth mentioned by all participants. An expression by Tara shows how newly learned skills can lead to a change in beliefs: “What I also learned is how to look at sources in a different way and connect learning goals to them. You don’t show historical sources for fun, but you also formulate inquiry questions.” A fourth source of growth was modelling by the facilitator. Jack explains that “what helped me were your examples during the meetings, when you brought historical sources and showed us what to do.” Kathie adds: “It was nice [...] to get an example and see what was meant. I like to learn by looking at others first and afterward do it myself.” Finally, bringing to practice what they learned in lesson designs, teaching these lessons in their classrooms and seeing the increased motivation in students for these lessons (professional experimentation and salient outcomes) enhanced the development of participants. As Rose said, “practicing helps a lot. And when you see that students are enthusiastic and motivated, that motivates you to continue.” The example typically illustrates what Clarke and Hollingsworth (2002) describe as encouragement for the teacher to persist with experimenting.

Four participants remarked on the newspaper articles that were read during the fourth meeting in the second year of the program, which were about the research process and conclusions reached about the betrayal of the hiding place of Anne Frank’s family. From these articles, participants were asked to deduce the steps of historical research. These were discussed, including similarities with classroom inquiry. The discussion, however, seems to have enhanced borrower beliefs in some participants. In the post interview, Nicole explained that she gained more insight into the complexity of historical research: “A historian will critically study these sources, but is it critical enough? We read the articles and were talking about Anne Frank and there was a witness and later they interpreted it differently and then it was all turned back. People have been working on that research a long time and can we now say they were right or wrong?” This does not indicate borrower belief per se; however, when asked what had changed in her ideas of the nature of history, she explained, “My personal view toward history has changed because I now realize that it may have been different than you read. [...] It is less self-evident than I always thought it was. What is truth anyway?” This reflects the idea of history being a series of opinions from which it is difficult to determine the truth.

Conclusion and discussion

As Gibson and Peck (2020) indicate, there “is often a disjuncture between teachers’ knowledge and beliefs about history and how to teach it, and how they actually teach history in the classroom” (p. 222). This may be caused by beliefs about the nature of history and how to teach history that are already fixed when teachers encounter inquiry-based history learning or historical reasoning. Existing beliefs are difficult to change, and therefore, change is usually limited (Maggioni et al.,

2004). Wilke et al. (2022) emphasized that to bridge the gap that often exists between teachers' beliefs and instructional practices, attention should be given to understanding historical reasoning and the development of competences to design inquiry-based lessons. The findings of our study indicate that elementary teachers participating in the two-year PD program, 'Historical reasoning in inquiry-based history lessons', developed a more nuanced belief about the nature of history, even though more naïve (copier and borrower) beliefs remained in addition to more nuanced (criterialist) beliefs. Their pedagogical beliefs became more oriented toward historical inquiry, especially when students responded well to the new lessons.

The development that teachers in our program showed matches the description by Wansink et al. (2017) of how individuals can simultaneously hold opposite beliefs and switch between stances, especially when beliefs about teaching history are discussed as opposed to beliefs about the nature of history. We described two development profiles. Teachers who fit the first profile come to understand how difficult history is, epistemically. They develop richer and more nuanced ideas in the course of the PD program but risk development of misconceptions about historical narratives being equally valid. Considering their pedagogical beliefs, teachers in this group developed more explicit ideas about doing inquiry in history lessons. Teachers that fit the second profile tended to develop richer criterialist beliefs and very explicit ideas about inquiry by students in history lessons. Although the PD program did not specifically target epistemic beliefs (as suggested by Maggioni et al., 2009), it still may have been powerful in this context because it was a two-year program, and we paid much attention to the historical method and forms of historical thinking.

Based on the final interview, we identified five elements of the program that enhanced participants' development toward teaching inquiry-based history lessons and understanding the interpretative nature of history. In line with Clarke and Hollingsworth's (2002) Interconnected Model of Professional Growth, we found that a combination and repetition of professional experimentation (engaging in historical inquiry, searching and using historical sources when designing lessons and bringing these lessons to practice), information and stimuli of external sources (modelling historical inquiry by the facilitator, connecting theory about historical reasoning and inquiry to teachers' experiences during professional experimentation) and seeing positive outcomes in students was fruitful. These findings are in line with the study of Gibson and Peck (2020), which also indicated the effectiveness of history teaching courses focusing on observing teaching methods and strategies, sharing ideas and learning with and from peers, designing and organizing learning activities and receiving practical support for those activities.

The example of reading and discussing articles on new research into the betrayal of Anne Frank's family shows that engaging in such activities may enhance borrower stance beliefs in teachers who are new to disciplinary thinking. The expression "I've become more critical", expressed in some form by six participants in the final interview, illustrates the need for knowledge of epistemology and the importance of tools for elementary teachers to deal with the conflicting nature of evidence to prevent "fostering naïve relativism and cynical skepticism" (Maggioni et al., 2004, pp. 192).

Limitations of the study

Our study included nine elementary school teachers. Although this is a good number of participants for a qualitative study, in a larger group of teachers, other profiles might be detected. Additionally, the fact that teachers participated voluntarily, which is an important factor in successful professional development, makes the results difficult to generalize.

The results of the questionnaire slightly deviate from the results of the interviews. It is unclear whether this has to do with the questionnaire. The combination of the questionnaire and the interviews allowed us to map how the beliefs of teachers in our program developed. Future research could focus more specifically on how teachers' beliefs can be charted using mixed-methods research.

Both Evelyn's and Rose's profile show that (more) explicit beliefs about the value of inquiry in history lessons go together with (more) nuanced beliefs about the nature and construction of historical knowledge, although Evelyn also demonstrated beliefs that can be related to a 'borrower stance'. However, on the basis of this study we cannot say that the development of more nuanced beliefs enhances the view that inquiry-based learning is a meaningful instructional strategy or that those views develop because of the strong emphasis on demonstration, development and implementation of inquiry-based learning lessons. More research is needed to understand the relationship between epistemic and pedagogical beliefs.

Finally, a limitation of this study is that we focused on the development of epistemic and pedagogical beliefs but did not investigate to what extent participating teachers' instructional practices changed in the direction of inquiry-based learning and whether this is also the case in the longer term. In a follow-up study, we want to look at what teachers do in their classrooms.

Implications

From this study, we draw several implications for practice, both in the professional development of in-service teachers and in educating new teachers. The elements that support the development of pedagogical beliefs (modelling by the facilitator, engaging in historical inquiry, group discussions about historical inquiry, searching and using historical sources in the context of designing lessons and discussing their own lesson designs in a peer group) can be implemented in teacher education programs to enhance the development of nuanced ideas about history and the understanding of historical reasoning from the start of teacher education on. Future professional development programs may combine the same activities as we did, but may be supplemented by providing information about the learning effects of inquiry on history learning, about misconceptions, and information about the effect on, for example, literacy skills, because these are found to be important for teachers to see the benefit compared to traditional teaching approaches (Peck, 2014; Van Boxtel et al., 2021). Perhaps most important is that both in-service and preservice teachers need to experiment with implementing historical inquiry lessons and develop skills to guide this inquiry as a teacher and provide a learning environment in which historical reasoning skills can grow.

Facilitators of such programs should be aware that borrower ideas are difficult to recognize because participants who are developing these ideas may use the same terminology as participants who are developing beliefs connected to a criterialist stance. Modelling how you as a historian think about the nature of history, comparing historical sources and weighing arguments to come to a substantiated conclusion may help to prevent misunderstanding. Combining group discussions about teachers' ideas and how they relate to theory and scrutinizing their designs may also help to enhance the development of criterialist ideas. Mathis and Parker (2020) describe a multidimensional framework of epistemic beliefs of history that is under development and could help both preservice and in-service teachers reflect on their epistemic beliefs and promote their historical reasoning skills. Such an instrument may be used during, but also after a program as extended support, possibly in combination with continued exchanging of ideas with PD facilitators and their colleagues after the program has ended (Van Boxtel et al., 2021).

Future research can focus on the question of which elements in professional development programs and learning contexts enhance the sustainable implementation of newly learned skills. New skills need to be practiced on a regular basis, and teachers' beliefs and capacities can better translate into classroom instruction when contextual factors, such as the curriculum, available resources, support and collaboration within the school, reinforce and support teacher agency (Priestley et al., 2021).

Acknowledgements

This publication is part of the project: Stimulating historical reasoning with the aid of inquiry-based learning: development and evaluation of a professionalisation programme for primary school teachers which is financed by the Dutch Research Council (NWO) under project number 023.014.017.

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Appendices

- A. Interview guideline
- B. Coding scheme

Appendix A: Interview guideline Elementary school teachers' beliefs concerning history and history teaching

Additional questions in the post interview in italics.

1. Beliefs about history education

- According to you, why should students study history in school? What are the most important goals of the subject?
- Which competencies should students gain in history education? Which knowledge should they gain? Which skills should they (start to) master?
- According to you, is history mostly about knowledge, skills or both?
- Which pedagogical approaches are suitable for history education and why?

2. Current practice in history teaching

- According to you, which teaching approaches fit well with history teaching? What is a strength of this approach?
- Can you describe your own teaching approach for history? How do you build up a lesson? What do students do during each phase?
- Do you use specific materials when teaching history? If so, can you give some examples?

3. Beliefs about the nature of history

- According to you, what does history encompass?
- What does the work of a historian encompass? Do historians follow a certain method? If so, what would this method be/look like (steps)?
- *How do we gain historical knowledge?*
- How does a historical narrative come about? Can a historian write whatever he/she wants? Why/why not?
- Is there, according to you, a difference between a historical theory and an opinion? Why/why not?
- It is possible that two historians, when studying the same historical sources, reach a different or partly different conclusion. How can this be explained?
- *Over the two years of the program, did anything change in how you think about history? If so, what has influenced this change?*

4. Beliefs about Inquiry-based learning

- How does history as a school subject differ from historical research done by historians? What are resemblances and differences? Can you explain why you think so?
- Should teachers explain to their students how the texts in their textbook are written/chosen?
- Should students be taught the historical inquiry and reasoning skills that historians use to study the past? Why/why not? If so, what kind of historical inquiry should students learn to do? If so, do you teach these skills in your history lessons? How do you do this?

5. Learning in the PD program

- *What is the most important thing you learned during the program? Can you explain/give examples? Did you reach certain insights?*
- *What was your personal aim for joining the PD program? Did you reach this goal? What else would you (have) like(d) to learn about history teaching?*
- *What in the program stimulated your development?*
- *What was most helpful in learning historical reasoning and inquiry-based history teaching?*
- *How did collaboration in the PLC go? Did it contribute to learning? If so, in what way?*
- *During the previous school year, did you have the opportunity to innovate in your school team? Did you share with colleagues what you were doing in the plc?*
- *Do you feel certain about yourself and your teaching when you teach history?*
- *Do you feel certain about yourself and your teaching when you let students do inquiries?*
- *What encouraged you to put the lessons you developed to practice? You can think about personal factors and school factors. Were there also limiting factors?*
- *How did students respond to your new history lessons? Did you see a difference in motivation? Were there certain aspects of the lessons they appreciated? Which?*

Appendix B: Coding scheme Interviews

1. Competencies history. What should students learn?		CG
Sub category	Examples:	Code
Development of historical time	Students should learn the chronological order of time and where persons fit on a timeline.	CG-ht
Historical knowledge	It is important that students know these historical developments/events/persons.	CG-hk
Historical skills	Most important is to learn to ask historical questions, analyse historical sources, argument.	CG-hv
Understanding the present	History is important to understand the present.	CG-hb
2. Current practice in history teaching		PG
Sub category	Examples:	Code
Traditional schoolbook-based	I follow the schoolbook method.	PG-km
Telling stories	By telling stories about history, students can imagine what really happened.	PG-vv
Inquiry-based approach	Students decide on an inquiry question in their group and they investigate this.	PG-ol
Heritage learning	I look for examples from art and heritage.	PG-ce
Relate history to the present	I try to connect a subject to what is happening nowadays.	PG-rh
3. Beliefs about the nature of history and how historians work		OGH
Sub category	Examples:	Code
History equals the past: copier	History and the past are the same; history is everything that happened.	OGH-cop
History is a set of opinions: borrower	There are so many historical sources from different people. It is hard to know what happened.	OGH-bor
History is a construct based on criteria (criterialist)	History is the result of the study of the past, based on studying historical sources, using a specific method.	OGH-cri
Investigating historical sources	They search, analyse and compare historical sources to try to understand an era or a certain development.	OGH-bo
Contextualisation	They try to really understand an era or event, by using all information available.	OGH-cx
Multi-perspectivity and historical empathy	Historians always try to understand and use sources from different perspectives.	OGH-mps
Historical reasoning	Historians always compare and contrast and consider causes and consequences.	OGH-hr
4. Beliefs about and own experience with Inquiry-based learning in history		OLG
Sub category	Examples:	Code
Inquiry into historical sources	Doing inquiry is the only way to really understand a period. By critically comparing historical sources.	OLG-bo
Historical reasoning skills	In this inquiry, students are learning to explain differences and similarities.	OLG-hr
General reasoning skills	Students are also developing their comprehension and reading skills.	OLG-av
Role of the teacher during IBL	I model how they should compare the two texts and how to find arguments in the text.	OLG-rlk
Challenges with IBL in history	It is difficult to let children think of an inquiry question themselves.	OLG-u
Students' behaviour or motivation	My students were enthusiastic.	OLG-gml
5. Professional development and sense of agency		Alk
Sub category	Examples:	Code
Much influence on own work or involved in education innovation	I develop my own lessons. I was involved in how we teach this theme/project.	Alk-vi
Little influence on own work and not involved in educational innovation	We don't work this way in my school. I was not involved in the decisions about this curriculum.	Alk-wi
Professional identity	I have a clear vision about how history should be taught. I feel resistance when innovations go too fast.	Alk-pi
Sources of professional growth	It helped me that we exchanged during the first 15 minutes. And that we worked with different perspectives.	Alk-bg
Stimulating factors	We shared this with colleagues, and they are interested to try these lessons themselves.	Alk-sf
Limiting factors	It takes a lot of time to develop these lessons. Sometimes I just missed necessary background information.	Alk-bf

About the Authors

Yolande Potjer is teacher-educator at Iselinge University of Applied Sciences and PhD-researcher at the University of Amsterdam, both in the Netherlands. Her research focusses on professional development of in-service elementary school teachers in teaching history. Her PhD-research is called 'Stimulating Historical Reasoning in Inquiry-based Learning Lessons in Elementary Education. Development and evaluation of a professional development programme for elementary school teachers.'

Email: y.a.potjer@uva.nl

ORCID: <https://orcid.org/0000-0001-6165-0208>

Marjolein Dobber is assistant professor at Vrije Universiteit Amsterdam, where she is the director of the bachelor program in Education. She is a member of research institute LEARN! Her research is aimed at meaningful education, mainly by looking at opportunities to improve teaching practices in inquiry-based learning and play-based learning.

Email: m.dobber@vu.nl

ORCID: <https://orcid.org/0000-0001-8581-131X>

Carla van Boxtel is professor of History Education at the Research Institute of Child Development and Education of the University of Amsterdam. Her research focuses on the learning and teaching of history in and outside schools, in particular historical thinking and reasoning.

Email: c.a.m.vanboxtel@uva.nl

ORCID: <https://orcid.org/0000-0002-5119-121X>