



Student teacher professional growth on teaching historical thinking and reasoning: A case study on the use of an observation instrument

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ABSTRACT

In this study, we investigated the role of an observation instrument on teaching historical thinking and reasoning (HTR) in fostering teachers' capability to teach historical reasoning. The aim was to see how Teach-HTR, an observation instrument that focusses on teacher behaviour when teaching HTR, can be used to enhance the professional growth of history student teachers in its teaching. We conducted a case study focusing on teacher training where a teacher educator integrated the use of the instrument in his regular practice. After investigating the changes in student teachers' beliefs, knowledge and practices by conducting pre- and post-measurements we used the Interconnected Model of Professional Growth to examine it further. The case study shows the Teach-HTR observation instrument helps student-teachers identify the teacher behaviour that enhances the teaching of HTR. It provides indications of the instrument's utility in enhancing professional growth.

KEYWORDS

History education, Teacher education, Historical thinking

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Introduction

The training of history teachers is a multifaceted process and is, in fact, a life-long enterprise. As teachers develop professionally, they build up their pedagogical content knowledge (PCK), i.e., their knowledge of how to teach their subject (Shulman, 1986). Regarding the PCK of history teachers, an understanding of historical thinking and reasoning and how to teach it is important. Despite historical thinking and reasoning (HTR) having received growing attention in the literature during the past two decades, less is known about how teachers can learn to teach it. Here, we investigated the role of an observation instrument on teaching HTR in fostering teachers' capability to teach historical reasoning in the classroom. Earlier, we developed and tested this observation instrument, Teach-HTR, which recognizes the teacher behaviour that promotes historical thinking and reasoning (Appendix 1; Gestsdóttir et al., 2018). The instrument is primarily intended to support teacher education and professionalisation but can also be used by researchers who want to investigate how and to what extent teachers teach historical thinking and reasoning. It contains 7 items, operationalized in 33 indicators and examples of teacher behaviour. A possible way of using this instrument may be in the initial training of history teachers. Observation instruments can be particularly useful when aiming at teaching higher order skills such as HTR, since research has shown that teaching HTR is a challenge, even for experienced teachers (e.g., Miri et al., 2007). Observations can result in concrete examples of effective teaching strategies, which contribute to teachers' pedagogical content knowledge and challenge teachers to develop their own teaching methods.

The aim of this study is to investigate whether and how the observation instrument Teach-HTR can be used by preservice history teachers to promote their professional growth regarding teaching HTR. Student teachers differ considerably from experienced teachers in regard to pedagogical content knowledge, a prerequisite for teaching HTR (Achinstein & Fogo, 2015; Harris & Bain, 2011). The process of the case study lays emphasis on cooperative procedures, considered appropriate for teacher education (see e.g. Johnson & Johnson, 2017). We use the Interconnected Model of Professional Growth (Clarke & Hollingsworth, 2002), which has been used in several studies of professional development (Bijsterbosch et al., 2019; Schipper et al., 2017), to examine changes in student teachers' beliefs, knowledge and practices. Our research question is: How can the use of the observation instrument Teach-HTR enhance the professional growth of history student teachers in the teaching of historical thinking and reasoning?

Theoretical framework

Teaching historical thinking and reasoning

Moving away from what may be labelled as 'traditional' history teaching, which focuses on students being able to recall historical facts, is a challenging task for many teachers. Teaching HTR is a complex task, as our analysis of history lessons on whether and how historical thinking and reasoning is being taught confirms (Gestsdóttir et al., 2019; Gestsdóttir et al., 2021). The interpretative nature of history calls upon higher order thinking skills. Students need to be able to take multiple historical perspectives into account, make use of primary sources, establish historical significance, discern continuity and change and other factors that regard history as a human-made product rather than a fixed historical truth (cf. Chapman, 2011; Lee & Shemilt, 2004; Seixas & Morton, 2013; Stradling, 2003, Van Boxtel & Van Drie, 2018; Van Drie & Van Boxtel, 2008). We use the term 'historical thinking and reasoning' for this type of activity. Historical

thinking and reasoning both aim at understanding the past, but historical thinking activities (as conceptualized by, for example, Lee, 2005; Levesque, 2008; Seixas & Morton, 2013; Wineburg, 1991), such as discerning aspects of change and continuity or contextualization of a primary source do not necessarily involve the construction or evaluation of a reasoning. Historical reasoning is a more integrative activity including both historical thinking and argumentation and aims at reaching justifiable conclusions about processes of continuity and change, causes and consequences, and/or differences and similarities through the analysis and critical evaluation of historical interpretations and primary sources (Van Boxtel & Van Drie, 2018). In a reasoning one constructs arguments to support assertions about the past (and addresses possible counterarguments) (see also Leinhardt et al., 1994; Monte-Sano & De La Paz, 2012; Voss & Carretero, 1998). In addition to being quite demanding for students, fostering these ambitious goals by active teaching methods is not in line with the emphasis on teacher centred teaching and lecturing, which seems to be the preferred approach of many history teachers in, for example, the United States and Europe (Reisman & Enumah, 2020; Wiggins, 2015). Teachers may be positively disposed towards teaching HTR but nevertheless find it problematic to enact and struggle with finding concrete ways to include the teaching of HTR in their usual practices (c.f. Barton & Levstik, 2003; Reisman, 2012; VanSledright & Limón, 2006). Some need assistance to realize what they are actually doing when teaching a class, having rarely tried to analyse or verbalise their own teaching (Voet & De Wever, 2016; Wansink et al., 2016; Wilson, 2001). More knowledge is needed on how teachers can be supported in teaching HTR during their initial training. The international information is sparse and leaves room for conjecture (Van Hover & Hicks, 2018).

The interconnected model of professional growth

Changing teaching practices towards more of an emphasis on teaching HTR requires professional growth. In their Interconnected Model of Professional Growth, Clarke and Hollingsworth (2002) describe professional growth as changes to any of the following four domains: 'the personal domain (teacher knowledge, beliefs and attitudes), the domain of practice (professional experimentation), the domain of consequences (salient outcomes), and the external domain (sources of information, stimulus or support).' (Clarke & Hollingsworth 2002, p. 950). As all the domains are interconnected, changes that occur in any of them may influence the others, through reflection and enactment. Hence, the model cannot only facilitate the investigation of change in (student-)teacher knowledge, beliefs and attitudes towards teaching historical thinking and reasoning but also address potential sources for this change (from information sources, enactment/trying out new methods in the classroom or reflection). In a previous study, we focussed on the personal domain when we investigated teacher beliefs that influence experienced teachers' choices of teaching approaches with regard to HTR (Gestsdóttir et al., 2021). In this study we continue by being mainly concerned with the personal domain but related to the domain of practice and the external domain. We want to see how an observation instrument can play a role in student teacher's professional growth, for example by supporting professional experimentation with teaching HTR in the classroom and informing teachers about HTR and how to enhance it in students. The domain of consequences is largely disregarded due to the design of the study, further explained in the methods section.

The elements ascribed to the personal domain are often collectively known as pedagogical content knowledge (PCK). A widely used definition of PCK, adding to Shulman's conceptualization, discerns five components (Magnusson et al., 1999): a) orientation towards teaching, b) knowledge and beliefs about the curriculum, c) knowledge and beliefs about students' understanding, d) knowledge and beliefs about assessment and e) knowledge and beliefs about instructional strategies. Several studies have taken a closer look at the PCK of history teachers, notably Tuithof et al. (2019), whose literature review revealed that most studies focus on instructional strategies, followed by teaching orientation. Instructional strategies were also the focus in Monte-Sano's (2011) case-study, where the aim was to teach novice teachers how to teach interpretative and evidence-based thinking. She concludes that a strong disciplinary understanding of history speeds

up the development of a teacher's PCK. Teachers who approached history as an interpretative and evidentiary discipline were more likely to attend to those attributes of student learning. The PCK element regarding student understanding is particularly challenging for less experienced teachers; Waldis, Nitsche and Wyss (2019) discovered a lack of PCK for more than 200 preservice history teachers who 'commented largely on generic teaching strategies while hardly noticing student learning.' (p. 112). Reisman and Fogo (2016) showed that the quality of instruction is constrained by the teacher's limited subject matter knowledge and PCK. It seems fair to conclude that to be able to teach HTR, student teachers need assistance to develop their PCK. An observation instrument can be of assistance in this respect.

Observation instruments in teacher education

The long-standing tradition of classroom observation in teacher training has usually been aimed at evaluating the performance of teacher candidates, however a complicated task that may be (Darling-Hammond et al., 2012, Gestsdóttir et al., 2018). Gosling (2002) described three models of peer observation of teaching: evaluation model, development model, and a peer review model which purpose is 'engagement in discussion about teaching; self and mutual reflection' (p. 5). Peer observation of teaching is recognized at all school levels as an important factor in professional development, as the study of Drew et al. (2017) bears out. They reviewed observation instruments in use in Australian universities for various purposes, among them, to enable reflective practice. Few domain specific instruments are in use but among them is the observation of the mathematical quality of instruction that aims at the professionalization of math teachers (Learning Mathematics for Teaching Project, 2011).

In the domain of history teaching, Huijgen et al. (2019) used an observation instrument to investigate how teachers promote historical contextualization (Huijgen et al., 2019). They concluded that teachers tend to demonstrate contextualization rather than promoting student's capacity to do it themselves. Reisman and Enumah (2020) performed a case study where they investigated whether the use of classroom video to identify opportunities for student discourse could enhance teacher understanding and facilitation of historical discussions based on documents. They detected a positive relationship between the two skills, identifying the aforementioned opportunities and the capability to enact such discussions. Video viewing was used in a study to assess the PCK of preservice teachers (Waldis et al., 2019) and when describing quality history teaching (Gautchi, 2015). The literature on video viewing in initial or in-service teacher training describes several objectives in its use: '(a) show examples of good teaching practices, (b) show characteristic professional situations, (c) analyse the diversity of classroom practices from different perspectives, (d) stimulate personal reflection, (e) guide/coach teaching, and (f) evaluate competencies' (Gaudin & Chaliès 2015, p. 47). These objectives can be linked to the personal domain and the domain of practice of the Interconnected Model of Professional Growth.

The observation instrument Teach-HTR is an external source that informs teachers about HTR (what it is in terms of concrete activities, e.g., contextualizing, identifying causes and consequences and sourcing) and about instructional strategies (communicating objectives related to HTR, demonstrating HTR, using sources to support HTR, promoting multiperspectivity, providing explicit instructions on HTR, actively engaging students in assignments or whole class discussion that ask for HTR). The observation instrument is based on literature on historical thinking (e.g. Lee, 2005; Levesque, 2008; Seixas & Morton, 2013; Wineburg, 1991) and historical reasoning (e.g. Leonhardt et al., 1994; Monte-Sano & De La Paz, 2012; Van Boxtel & Van Drie, 2008; Voss & Carretero, 1998), Van Boxtel and Van Drie's empirically grounded model of historical reasoning (2018) and a consultation of experts from different countries (Gestsdottir et al., 2018). Therefore, it may contribute to a) the teachers' knowledge about HTR and the teaching of it, as well as beliefs about the importance of teaching HTR, b) professional experimentation/enactment of teaching of HTR, c) reflecting on their own teaching strategies/their own teaching of HTR and d) reflecting on students' ability to engage in HTR/the

development of this ability. Thus, the instrument brings together the external domain, the domain of practice and the personal domain of the Interconnected Model of Professional Growth.

Method

A case study was conducted in the context of teacher education in the Netherlands. The study is an exploratory qualitative one (Miles & Huberman, 1994), meant to gather information and indications of how the observation instrument Teach-HTR enhances the professional growth of history student teachers in the teaching of historical thinking and reasoning. As is characteristic for case studies, we combine different methods. We gathered data by using student teachers' lesson plans, questionnaires, learner reports, peer observations, reports of post-observation discussions and an interview with the teacher educator to facilitate triangulation (Yin, 2009). The Interconnected Professional Growth Model guided our description of students' professional growth and the contribution of using the observation instrument.

The project was approved by the Ethics Review Board of the University of Amsterdam, (2019-CDE-10376).

Participants

Participants were a history teacher educator from our network and their seven Master's students in history teaching at a Dutch university. The participating teacher educator, holding a PhD in history education, had extensive experience both as a teacher educator and as a history teacher. The teacher educator decided how the instrument could be integrated in a course on subject specific pedagogy (Dutch: vakdidactiek) at the final stages of the training program. Since the teaching of historical thinking is required in the Dutch curriculum, students had already devoted at least six lessons to it in their coursework before the study, as well as touching upon it in previous courses.

Procedure

The student teachers discussed the Teach-HTR instrument in a meeting before they used it to design and teach one lesson during their inservice training in secondary schools focusing on aspects of HTR included in the instrument. Their pupils were 13-15 years old, preparing for college or university. The lesson was reflected on by themselves, and observed by another student, using the instrument to analyse it. It should be noted that the participants did not receive extensive training in using the instrument to analyse other teachers' lessons which excluded the possibility to use these peer observations to draw conclusions regarding the student teachers' teaching of HTR and the HTR of their students. Pre- and postquestionnaires were used to investigate student's ideas of HTR and their perception of their ability to teach it before and after. The students also had group discussions with their teacher educator when all of them had accomplished their teaching of the lesson. Figure 1 shows an overview of the program.

Figure 1*An overview of the training program*

Pre-measurement (January)	Teaching (Jan-Feb)	Observing (Jan-Feb)	Discussing (March)	Post-measurement (March)
Questionnaire measuring task value and self-efficacy for teaching HTR. Students explain what they can do to teach HTR.	Discussion of Teach-HTR ↓ Designing a lesson plan to teach HTR ↓ One lesson in secondary school taught, observed by a peer ↓ Reflection on the teaching of one lesson.	Observation of a peer, teaching HTR. ↓ Peer's written feedback and discussion of the lesson, using Teach-HTR.	Lessons and observations discussed in a course meeting with teacher educator.	Questionnaire measuring task value and self-efficacy for teaching HTR. Students describe what they have learned. Learner Reports.

Data collection and instruments

The program lasted from January to March 2020. All data were collected by the teacher educator at the university.

Knowledge and beliefs (personal domain): The pre-measurement included an open question asking student-teachers to list as many things as possible that they, as teachers, were able to do to enhance pupils' HTR abilities. Both at the beginning and the end of the training program students completed a task value questionnaire measuring the value that they attach to learning how to teach HTR and how interesting it is. The questionnaire consisted of three items: a) I think I will be able to use what I learned about the teaching of HTR in my lessons, b) I enjoy teaching historical thinking and reasoning in my lessons and c) understanding how to teach historical thinking and reasoning is very important to me. These items were adapted from a longer list of items measuring task value from the motivated strategies for learning questionnaire (MSLQ) (Pintrich et al. 1991). A 7-point Likert scale was used.

Student teacher's perceived competence (self-efficacy) for teaching HTR was measured before and at the end of the program (inspired by Voet's and De Wever's (2016) questionnaire on inquiry-based learning in history). The first item was a general item using a 7-points Likert scale: I expect to do well on the teaching of historical thinking and reasoning. This was followed by eight questions, each of which aligned with a category in the observation instrument, e.g., 'At the moment, to what extent do you feel able to formulate learning objectives that focus on historical thinking and reasoning?' and 'At the moment, to what extent do you feel able to make clear that there are multiple perspectives and interpretations?' These were measured on a 5-points Likert scale. Furthermore, in the post-measurement we included a question in a learner report-format to gain more insight in students' experiences when teaching HTR ('It was a challenge for me to ...'). This format is useful when identifying educational objectives that are difficult to measure (Janssen & Rijlaarsdam, 1996; Van Kesteren, 1993).

Professional experimentation (domain of practice): We collected the lesson plans designed by the student-teachers, students' written reflections on the lesson taught, the observations of a peer

who observed this lesson using the observation instrument and the written feedback of the peer student (summarizing their findings including strengths and points of improvement). One question in the learner report-format was aimed at this domain ('The basic content of what I have learned is ...').

Sources of growth: The post-measurement included two questions in a learner report-format to gain more insight into sources of professional growth ('From the Teach-HTR instrument I learned ...', 'I learned the most from ...').

After the program, one of the researchers had a final retrospective interview with the teacher educator. In this interview, the teacher educator described and reflected on the course meeting in which the use of the observation instrument was discussed by the student teachers. Furthermore, the interviewer asked some clarification questions about the lesson plans of individual students and how they had made use of the observation instrument when designing them. This information was helpful in interpreting the data collected from the students.

Data analysis

For the closed questions measuring task value and self-efficacy mean scores were calculated. The open question in the pre- and post-questionnaire about enhancing pupils' HTR was coded by items present in the Teach-HTR instrument, to determine which aspects or components of HTR were addressed. An example is one student-teacher's explanation of how he might contextualize new historical knowledge and help pupils use argumentation appropriate to the time period being studied. In addition, they were coded to identify types of teaching behaviour, such as working with sources or asking historical questions. The learner report-questions in the postquestionnaire were analysed to discern the main challenges and sources of professional growth. Among them were making HTR concepts concrete, and learning from observing the lesson of a peer and using the instrument. The lesson plans were analysed, searching for components of teaching HTR (as operationalized in the observation instrument) in the lesson goals, as well as in the teacher and pupils' activities. Peer lesson observations, followed by written reports of post-observation discussion were used to get a clearer idea of the lessons the students designed and how they enacted them.

Results

First, the general results of all participants will be discussed, after which we focus on two of them, Joke and Jan (pseudonyms were assigned). They were chosen as certain opposites because initially, Joke was considerably less confident than Jan, who was of the opinion that teaching HTR was simple and did not necessarily require specific attention. Their experiences were different, so it was interesting to compare their development as history teachers.

Change in the personal domain

The questionnaires presented information on the students' beliefs, knowledge and attitude, i.e., the personal domain. The scores of all student teachers' responses are presented in Table 1. Looking at the overall means, the value students gave to learning about teaching HTR stayed the same in the pre- and postmeasurement, i.e., 5.9 out of 7 points. Student 2 (Joke) and 4, however, demonstrated a clear increase. The self-efficacy of four students towards teaching HTR increased. One student (Jan) showed a decrease in his self-efficacy. With respect to the open question in the premeasurement, we found that the student teachers were able to mention 0-4 items of HTR (av. 2.3) and 2-4 types of teacher behaviour (av. 3.1). Most often, they mentioned working with cause and consequence but as to teacher behaviour, giving assignments to pupils was mentioned most frequently. The basic content of what they had learned was how to make explicit steps towards teaching HTR, according to the learner reports ('The basic content of what I have learned is how

to incorporate HTR into your lessons even more and expand your toolbox in extending HTR to pupils.’).

Both Joke and Jan were of the opinion that it was important for them to learn how to teach HTR, assigning 6 (Joke) and 7 (Jan) points to the statement, similar to the rest of the students. Joke and Jan gave the same responses to how important it was to them to understand how to teach HTR and its usefulness. Their answers differed on how much they enjoyed teaching HTR. Joke was more positive than Jan (6 vs. 5 points) and more interested in learning to teach HTR (6 vs. 5 points). However, she was less confident regarding being able to use what she learned about the teaching of HTR (5 vs. 7). The postquestionnaire revealed that all Joke’s scores increased, signifying a change in the personal domain, except for one that stayed the same (‘I think I will be able to use what I learned about the teaching of HTR in my lessons.’). In the postquestionnaire, Joke assigned 7 points to both how much she enjoyed teaching HTR and to the importance of understanding how to teach HTR. Jan’s response to how much he enjoyed teaching HTR stayed the same (5 points) in the pre- and postquestionnaires. His view of the importance of understanding how to teach HTR decreased from 7 points to 5.

Regarding teacher knowledge, Joke mentioned working on historical empathy, causal reasoning and contextualization. She referred to three types of teacher behaviour: working with sources, assignments and explicit teaching of cause and consequences. Jan described causal reasoning, change and continuity, historical perspectives and the evaluation of sources. He linked them to four types of teacher behaviour: lecturing/asking questions, assignments, working with sources and providing explicit instruction on skills. He also expressed the view that explicit attention was neither required to cover HTR nor is it complex, since HTR is a natural part of historical narratives.

Joke felt an increased ability to provide explicit instruction on HTR skills and engage pupils in HTR through individual and group tasks (from 2 (unable) to 4 (able)). Moreover, she now felt completely able to use historical sources to support HTR. Nevertheless, her confidence towards formulating learning objectives that focus on HTR and engaging pupils in HTR by a whole class discussion diminished from 4 to 3. Jan’s perception of his ability to teach HTR was very pronounced. In the prequestionnaire, he was the only student who felt completely able (5 points) to carry out all the items in question. He was also the only student whose confidence diminished according to the postquestionnaire.

Table 1

Mean scores of student teachers’ answers in pre- and post-questionnaires

	Value (range 1-7)		Self-efficacy (range 1-5)	
	Premeasurement	Postmeasurement	Premeasurement	Postmeasurement
Student 1 Joke	5.3	6.3	3.4	3.9
Student 2 Jan	6.3	5.0	5.0	4.0
Student 3	5.3	5.3	3.8	N/A
Student 4	5.7	7.0	3.4	3.8
Student 5	5.7	4.7	3.8	4.4
Student 6	7.0	6.0	4.0	4.4
Student 7	6.0	7.0	4.0	4.0
Mean	5.9	5.9	3.9	4.0

Change in the domain of practice

Professional experimentation belongs to the domain of practice. The results described here are based on lesson plans. We also use the learner reports to discern possible change. The analysis of all six lesson plans showed the following: Four included HTR in their lesson goals (i.e., multiperspectivity or sourcing strategies) and all planned to engage their pupils in activities that asked for various elements of HTR, to various degrees (category 6 of the observation instrument). All but one planned to demonstrate HTR (category 2), a form of teaching HTR that has been most observed (Gestsdóttir et al., 2019). Thus, their lessons seem to justify the increased confidence the students had towards teaching HTR. The peer observations revealed even more elements of HTR, but these are not included here, as the students were not specifically trained in using the instrument that way. According to the learner reports, the students added many elements to their teaching during the program, such as giving explicit instruction on how to think and reason historically (Jan) or how to work with sources to enhance HTR (s7).

As already mentioned, Joke's confidence towards formulating HTR learning objectives and engaging students in HTR through whole-class discussions had somewhat diminished during the program. However, her lesson plan and lesson show that she demonstrated many behaviors that we include under the teaching of HTR. Joke chose a lesson on social and political issues of the 18th and 19th century, including an assignment focussing on the historical significance of events and circumstances using the diamond nine approach (Chapman, 2003). Part of the assignment was 'Name the event you have put at the top of the diamond. Explain why you consider this event the most significant one.' According to the observation of her peer, Joke managed to include many elements of HTR in the lesson, in fact, so thoroughly that the observer marked 3 or 4 (out of 4) points for six of the seven categories of the Teach-HTR instrument. The whole-class discussion scored 2 points. The observation of Jan's lesson produced similar results, although he mainly demonstrated HTR and engaged his students in an assignment and whole-class discussion that asked for HTR. For example, Jan asked his students to assess the trustworthiness and representativeness of sources about enlightened absolutism.

Change in the external domain, relevant sources of growth

We were particularly interested in observing how the Teach-HTR instrument could lead to changes in the external domain, i.e., as a source of information, stimulus or support, and if it was a source of growth. The teacher educator, who already had experience using other observation instruments, confirmed that Teach-HTR was useful and could easily be integrated in teacher education. For the teacher educator, it was important to know which challenges students faced when teaching HTR, and the instrument was found helpful in this respect: 'I saw students reflect more on historical thinking after we had discussed their own classroom observations ... They thought it was very helpful and useful.' The students appreciated the instrument's concrete description of teacher behaviour, how it provided insight into HTR skills and could be used as a checklist when designing lessons. In the learner reports, the students elaborated on what they had learned from the instrument, and student 6 stated: 'From the instrument Teach-HTR I learned how different aspects of HTR can be observed and what concrete behaviour to look for when trying to observe or indeed teach HTR,'. Student 5 added: 'With these behavioural descriptions, you can take a more specific look at what you want to achieve in class and how to evoke this student behaviour.' All students saw the instrument as a source of growth according to the learner reports. Three students said they had learned most from observing another student's lesson using the instrument. Other sources of growth mentioned were the group sessions with their teacher and the reading materials.

Joke learned from the instrument how to consider other ways of including HTR in the lessons and how to use such an instrument when preparing a lesson. She felt she had learned the most from observing another student-teacher and the discussions with her peers and the course teacher. In his learner report Jan stated: 'From the instrument Teach-HTR, I learned to include

explicit instruction in my teaching of HTR. First, I just presented the pupils with questions concerning the different types of reasoning. Now, I've learned to explicitly instruct pupils on how to think and reason historically.' He learned the most from reading about HTR and comparing it with the requirements of the national curriculum. Other students described their basic learning as 'how to incorporate HTR even more into your lessons' or 'how you as a teacher can demonstrate HTR' and said that the observation instrument provided overview and support.

Possible hindrances to growth

In the group discussion about Teach-HTR, the students mentioned that the instrument focused too much on teacher behaviour, rather than to what extent the pupils engaged in HTR. Its basic structure, i.e., being teacher centred, was perceived as a drawback by some. Despite the instrument being considered very concrete when it came to teacher behaviour and the students said they learned much from observations using it, some found it somewhat abstract and asked for more examples. However, the main challenges the students faced did not have to do with the instrument but rather with the complexity of teaching HTR. This was corroborated by the reflections of their teacher. Both Joke and Jan said that their main challenge was including several items of HTR in the same lesson. Joke seemed almost apologetic that one category of the instrument was not observed in her lesson, and her peer consoled her in her notes ('This is okay. You simply cannot cover source analysis every lesson.') Other students added that various sides of each HTR component could easily be overlooked in the hustle and bustle of classroom teaching.

Conclusion and discussion

Teaching historical thinking and reasoning is a complicated task that needs careful attention in teacher education programs. Here, we investigated whether and how the observation instrument Teach-HTR could be of use in this context. We used the Interconnected Model of Professional Growth to describe and explain how professional growth occurred. It turned out that the instrument added to the students' professional growth when used in conjunction with peer observation and discussion. Learner reports and questionnaires were mainly used for the purpose of research to better understand the professional growth but also worked as instruments of reflection for the students. The teacher educator confirmed the usefulness of Teach-HTR and the role it played in supporting their students' teaching of HTR. In general, the students already valued teaching HTR and were positively disposed towards learning how to teach it. The instrument added to their knowledge of actual teaching behaviour related to HTR (personal domain), although some students would have liked more concrete examples related to the categories of the instrument. The interaction between the personal domain and the domain of practice is visible. The instrument's influences on the latter manifested itself in HTR centred assignments and teacher talk including many elements of demonstrating HTR. It stimulated experimentation and initiated change. Before the program, the students could address several different types of teacher behaviour associated with teaching HTR (usually 3-4), but fewer actual elements of HTR (0-4). The observations of their lessons show that they demonstrated much of the teacher behaviour that we refer to in the instrument as teaching HTR. Six of the students managed to prepare an assignment that asked for HTR, in addition to demonstrating it themselves (all but one). Joke taught HTR to a considerable extent in her lesson, according to the observation and analysis by her peer, and earned her growing confidence, although she demonstrated a slight decrease in confidence regarding some categories of teaching HTR. Jan also emphasized HTR to a considerable extent in his lesson. He presents an interesting exception in that his confidence diminished during the program. In the prequestionnaire, his marks were the highest of all the students and he had quite clear ideas of the teaching of HTR. Since the domain of consequences (salient outcomes) partly lies beyond the scope of this study, it is only guesswork that he may have undergone some type of a reality check when he designed and taught a lesson devoted to HTR and

realized how challenging it is to teach HTR. We must be careful when interpreting changes in scores on the self-efficacy questionnaire. At the post measurement, participants probably did not always remember exactly what they had entered in the pre-measurement, and the score on the postquestionnaire is strongly influenced by how certain parts, such as conducting a whole-class discussion that requires HTR, went. Nevertheless, the instrument contributed to this domain regarding the design of assignments. The student teachers found it helpful that it provided concrete examples of teacher behaviour related to the teaching of HTR. Several of them were positive about observing another student's lesson using the instrument. They were not extensively trained in how to use the instrument. Such a training might add to the quality of the peer discussions.

The instrument was used to promote professional growth without prescribing any particular approach because the aim was to see how a teacher educator could integrate the use of the instrument in their regular practice. The students received coaching and strived to incorporate several items of HTR in their lessons. We do not know what the results would have been if the student teachers had simply focused on one category of choice in their lesson. The instrument does not only provide means and tools for teaching HTR but supports the student teachers' beliefs in the value of teaching HTR, which is of crucial importance (McCrum, 2013; Pajares, 1992). The complex interaction between beliefs and enactment is reciprocal in the sense that it is hardly beneficial to teach without realizing what lies beneath. Aided by some of the literature that the instrument is based on and peer reflections, it provided a solid footing for teaching HTR. However, as some of the student teachers needed more concrete examples, it would be advisable to pay more attention to discussing the categories, the underlying literature and concrete examples to develop a rich understanding. Furthermore, peer observation and therewith post-observation discussion need to be carefully prepared, e.g. by training, if they are to provide reliable information.

The limitations of the current study must be acknowledged. When analysing the student teachers' data, many questions arose, and although we already combined different types of data to ensure triangulation, it would have been better to include an opportunity for the researchers to interview the student teachers to be able to probe deeper and gain a better understanding of their motives and actions. Case studies are particularly suitable for answering how and why questions. We aimed at describing student teachers' professional growth in teaching HTR and how the observation instrumented functioned as a source of growth. Interviews might have provided more insight in why the students learned using the instrument.

It can be concluded that an observation instrument such as Teach-HTR can easily be integrated in teacher training. Thus, it can support those who are taking their first steps in history teaching. It would be interesting to use the instrument with a larger group of student teachers over a prolonged period of time to gain more knowledge of how professional change occurs when teachers wish to emphasize the teaching of historical thinking and reasoning. It can also be used by experienced teachers who wish to investigate or modify their practices when teaching HTR, as a self-report or to analyse video recordings of their lessons. The instrument can serve as a framework for reflection, e.g. a mutual one where peers discuss their teaching in a learning community. In this way, it can support the professional growth of both experienced teachers and student teachers.

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Appendix 1

Categories and items of the Teach-HTR instrument

A: Teacher's instruction of historical thinking and reasoning				
1. The teacher communicates learning objectives related to the development of students' historical thinking and reasoning ability				1 2 3 4
<input type="checkbox"/> 1. Communicates objectives that focus on strategic knowledge (how to do things in history, e.g. investigating sources), second-order concepts (e.g. cause, change, evidence) or the nature of historical knowledge (in history knowledge is constructed, it is often insecure and not fixed)				
<input type="checkbox"/> 2. Communicates objectives that focus on deeper understanding of some historical phenomena (e.g. causes and consequences, changes, significance)				
<input type="checkbox"/> Communicates goals, but not focused on historical thinking or reasoning				
<input type="checkbox"/> Does not communicate any goals at all				
2. The teacher herself/himself demonstrates historical thinking or reasoning without explaining explicitly what he is doing or giving instructions on how to do it				1 2 3 4
<input type="checkbox"/> 3. Asks historical questions, problematizes				
<input type="checkbox"/> 4. Provides historical context (e.g. time, place, developments)/contextualizes events or actions of people in the past				
<input type="checkbox"/> 5. Makes clear that contemporary standards should be avoided when looking at the actions of people in the past				
<input type="checkbox"/> 6. Explains historical phenomena, causes and consequences				
<input type="checkbox"/> 7. Discerns aspects of change and continuity				
<input type="checkbox"/> 8. Compares historical phenomena and/or periods (e.g. a comparison with the present)				
<input type="checkbox"/> 9. Assigns historical significance to persons, events or developments				
<input type="checkbox"/> Does not do any of this				
3. The teacher uses historical sources to support historical thinking and reasoning				1 2 3 4
<input type="checkbox"/> 10. Sources				
<input type="checkbox"/> 11. Contextualizes				
<input type="checkbox"/> 12. Investigating/close reading of sources				
<input type="checkbox"/> 13. Compares information from different sources				
<input type="checkbox"/> 14. Evaluates the usefulness/reliability of sources in relation to a specific question				
<input type="checkbox"/> 15. Uses information from sources as evidence in an interpretation / to support a claim				
<input type="checkbox"/> Uses historical documents, pictures and/or objects merely to illustrate the content				
<input type="checkbox"/> Makes no use of historical documents, pictures and/or objects				
4. The teacher makes clear that there are multiple perspectives and interpretations				1 2 3 4
<input type="checkbox"/> 16. Presents different historical interpretations such as explanations, interpretations of change and historical significance, sometimes through time				
<input type="checkbox"/> 17. Presents and explores perspectives of different historical actors on the same event/in the same period				
<input type="checkbox"/> 18. Presents two or more perspectives: local/regional/national/global				
<input type="checkbox"/> 19. Presents two or more perspectives: economic/political/sociocultural				
<input type="checkbox"/> 20. Makes clear that the perspective presented is only one of many or changes through time				
<input type="checkbox"/> Does not present multiple perspectives or interpretations				

