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Teaching towards historical expertise

Developing students' ability to reason causally in history

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CHAPTER 1

GENERAL INTRODUCTION

SCOPE AND BACKGROUND OF THE THESIS

In history education, a transition is taking place from teaching historical knowledge as an end in itself to teaching historical knowledge as a component of learning to think and reason historically. In the Dutch history curriculum too, learning goals connected to historical reasoning have become increasingly important (Domain A; Board of Examinations, 2013). The ability to reason historically is considered to be valuable in a democratic, pluralistic society (e.g. Barton & Levstik, 2004). Among the competencies connected to historical reasoning are the ability to deal with multiple and sometimes contrasting perspectives on the past, the ability to critically evaluate (historical) sources, and the ability to interpret events or developments in the context of time and place (e.g. VanSledright, 2010; Seixas, 2004).

Historical reasoning competencies can be defined in relation to the types of questions (historical problems) that historians seek to answer (van Drie & van Boxtel, 2008). The ability to answer causal questions in order to explain historical events is one key-ability that we aim at in history education. This ability requires for instance that students learn to understand the multi-causal nature of historical events, develop an analytical toolkit to differentiate between different kinds of causes, and come to understand the argumentative and interpretive nature of historical explanations (Board of Examinations, 2013). Fostering this ability is the central topic of this dissertation.

Despite the importance of (causal) historical reasoning in the Dutch curriculum, my own experiences as a history teacher and a teacher trainer, as well

as my exchanges with other history teachers, have made it clear that teachers often lack explicit knowledge about what these skills entail, which conceptions and misconceptions students hold, and about effective pedagogical principles to foster these skills. Consequently, in many history classrooms, teaching and learning activities remain primarily focused on the acquisition and reproduction of first-order knowledge and historical reasoning skills often remain implicit (cf. van Boxtel, van Drie, & Kropman, 2010; VanSledright, 2011). The studies in this dissertation intend to contribute to bridging this gap by defining a pedagogical approach able to foster 11th grade preuniversity students' ability to reason causally in history.

Although the studies in this dissertation are rooted in a practical concern, the questions asked are more fundamental and intend to contribute to our theoretical understanding of domain-specific reasoning and learning. The main goal of our studies is to develop and test a domain-specific pedagogical framework for learning and teaching causal historical reasoning. Previous studies have demonstrated that many aspects of causal historical reasoning are difficult for students—for instance, students have been found to overemphasize the needs and wants of individuals in their causal explanations (cf. Lee, Dickinson, & Ashby, 1997; Halldèn, 1997). However, not much is known about pedagogical principles that effectively foster causal historical reasoning. To date, most studies that investigated pedagogical approaches, focused on only one aspect of historical reasoning—namely, strengthening students' ability to work with historical sources (e.g. De La Paz, 2005; De La Paz & Felton, 2010; Nokes, Dole, & Hacker, 2007; Reisman, 2012). Only one intervention study focused on evaluating and arguing about historical significance (van Drie, Braaksma, & van Boxtel, 2015).

In this dissertation, we combine the model of domain learning (MDL; Alexander, 2003) and the pedagogical principles that Alexander defined based upon the MDL (2005), with the framework of historical reasoning (van Drie & van Boxtel, 2008) in order to define causal historical reasoning and develop a

suitable learning environment. No previous studies in history education used the MDL as a model to conceptualize teaching and learning. The MDL is derived from studies across multiple academic domains and describes the cognitive and affective components on which the ability to engage in domain-specific reasoning is founded (e.g. (an increasing level of) first- and second-order domain-knowledge, topic-knowledge, domain-specific strategies, and individual interest). In a subsequent article, Alexander also emphasized the importance of students' epistemological beliefs about the nature and sources of knowledge. Whereas the MDL conceptualizes the generic 'building blocks' of domain-specific reasoning, the framework of historical reasoning is more closely connected to the domain of history. This framework describes the components of historical reasoning found in students' interactions while working on a historical problem and in their written answers (e.g. working with sources, asking historical questions, using substantive and second-order concepts, providing (counter) arguments, and contextualizing). In our studies, we explore how the MDL adds to the framework of historical reasoning and how these two models allow us to define a domain-specific instructional framework.

The MDL does not only provide a useful perspective on the conceptualization of causal historical reasoning, but in a subsequent article, Alexander also defined 'matching' pedagogical principles (2005). In previous intervention-studies on historical reasoning pedagogical decisions were often based on the model of cognitive apprenticeship (MCA; Collins, Brown, & Holum, 1991). Although the principles defined in the MCA resemble the principles that Alexander defined based upon the MDL, the MDL adds to this instruction model because it allows us to align these principles with the (domain-specific) types of knowledge involved in causal historical reasoning. Based on both models, and on research on effective tasks and learning activities to foster historical reasoning, we define several key pedagogical principles and explore the effectiveness of a learning environment based on these principles. Our studies

focus specifically on the effects of explicit teaching of strategies, second-order concepts, and epistemological underpinnings involved in causal historical reasoning.

As noted above, the MDL also conceptualizes the importance of developing discipline-specific epistemological ideas as a component of domain learning. Within history education too, several researchers have suggested the importance of (nuanced) ideas about the nature and the sources of historical knowledge in students' historical reasoning ability (Lee & Shemilt, 2004; VanSledright & Limón, 2006). In her study on fostering strategies related to reading from multiple historical sources, Reisman (2012) concluded that it would be important to incorporate the development of epistemological ideas in future research. However to date, no intervention studies in history included the explicit teaching of epistemological ideas in their intervention, nor did previous studies investigate the development of these beliefs as a component of historical reasoning. Outside history education, evidence can be found to substantiate a relationship between these ideas and students' strategic-processing, their task-performance and task-persistence (cf. Buehl & Alexander, 2001; Pieschl, Stahl, & Bromme, 2013). Based on this, we integrate explicit reflection on the constructed nature of historical explanations and on the methodological criteria for evaluating these explanations, as a key element in our explicit teaching environment (besides the explicit teaching of causal strategies and second-order concepts). We intend to investigate to what extent epistemological reflection is related to students' learning and their learning experience. Further, we hope to broaden the knowledge about measuring epistemological beliefs in history education.

AIM AND RESEARCH QUESTIONS

The studies in this dissertation focus on causal reasoning in history and on defining and evaluating a pedagogical approach, based on the MDL and on

literature on (causal) historical reasoning, that is expected to foster this reasoning. To this end, we conduct two experimental studies that investigate our pedagogical approach, with a specific focus on the importance of explicit teaching (chapter 2 and 3). Following these experiments, we explore two central elements of our design in more detail. First, we conduct a qualitative analysis on the revised essays that students in the experimental condition wrote after the intervention lessons, to better understand the complexities of causal historical writing (chapter 4). Second, we revisit the problems encountered with measuring students' epistemological beliefs about history (chapter 5).

RESEARCH QUESTIONS

1. What constitutes causal historical reasoning and what are the effects of our design-principles—derived from the model of domain learning—in general and of explicit instruction in particular, on the causal historical reasoning ability of 11th grade preuniversity students? (*Chapter 2*)
2. What are the effects of explicit teaching of second-order concepts, causal reasoning strategies, and epistemological underpinnings (in the context of a collaborative explanatory task) on 11th grade students' (a) second order and strategy knowledge, (b) their epistemological beliefs and (c) their ability to construct a causal explanation? In addition: what are the effects on first-order knowledge and individual interest? (*Chapter 3*)
3. Which aspects of causal historical reasoning do students include in their essay revisions after a lesson-unit in which second-order concepts and strategies related to historical causation, as well as epistemological reflection on the nature of historical explanations, are explicitly taught? And how are these revisions related to students' initial text-structure? (*Chapter 4*)
4. Does our epistemological beliefs questionnaire on historical knowledge and knowing confirm a theoretical model in which epistemological beliefs in

history are primarily divided between (a) naïve epistemological beliefs and (b) nuanced epistemological beliefs? (*Chapter 5*)

THEORETICAL BACKGROUND

CAUSAL HISTORICAL REASONING

The model of domain learning (MDL) conceptualizes that developing expertise in a given domain implies acquiring topic- and domain-knowledge, (domain-specific) deep-level strategies, nuanced epistemological ideas, and individual interest. Students who are more competent in an academic domain demonstrate more and more cohesive knowledge, engage in more deep-level processing, and report a higher interest while solving problems that typify a domain (Alexander, 2003). In our studies, we define topic-knowledge as concrete first-order knowledge about historical events (for instance, ‘the annexation of Bosnia-Herzegovina by Austria-Hungary’, or ‘the German Naval Law’). Within the construct of domain-knowledge, we discern more abstract first-order knowledge (knowledge of historical phenomena, developments, and chronology—e.g. ‘the arms race’, or ‘the system of alliances’), as well as second-order knowledge. In line with VanSledright and Limón (2006, p. 546) we define second-order knowledge as—“concepts and ideas that investigators impose on the past in the practice of interpreting and making sense of it.” The studies described in this dissertation focus specifically on students’ second-order knowledge related to historical causation. Examples are concepts such as, “trigger”, “precondition”, and “long-term consequence”. Furthermore, we focus on the knowledge of causal strategies and epistemological beliefs. We define strategy knowledge related to historical causation, as the knowledge of (domain-specific) procedures to construct a causal explanation (e.g. looking for multiple causes or modeling causal relationships). Finally, we define students’ epistemological beliefs, as beliefs about the constructed nature of historical explanations and about the

criteria for assessing these interpretations. Students who regard knowledge as complex and temporary, and who understand the centrality of evidence and argument in (historical) interpretations, have been shown to possess greater interest and task persistency, and engage in more (deep-level) strategic processing (e.g. Alexander, 2005; Buehl & Alexander, 2001).

The way the MDL conceptualizes the types of knowledge involved in domain-specific reasoning holds similarities to the framework of historical reasoning that we use to define the domain-specific components of our study (van Boxtel, 2014; van Drie & van Boxtel, 2008). Whereas the MDL conceptualizes the development of knowledge, the framework of historical reasoning describes the use of this knowledge in the context of a domain specific task. van Drie and van Boxtel (2008) defined types and components of historical reasoning. Using first- and second-order knowledge to construct a historical claim based on arguments and evidence taken from historical sources are central components of this reasoning. Based on both models, we define causal historical reasoning as follows—causal historical reasoning is “an activity in which a person *constructs a historical explanation* by using *first-order knowledge, and knowledge of second-order concepts and strategies* related to causality, *provides arguments* and counterarguments to support causal statements, and uses *evidence* taken from *historical sources*. The approach and outcome of this activity is influenced by the *epistemological beliefs* about the nature of historical causation a student holds and his *interest in history*”. In our studies, we focus primarily on the explicit teaching of the strategies, second-order concepts and epistemological underpinnings related to historical causation.

Below we will briefly elaborate the strategies and second-order concepts, as well as the epistemological underpinnings, involved in causal historical reasoning. For this we draw on studies that describe what causal reasoning in history entails and investigate which conceptions and misconceptions students hold about explaining historical events (i.e. Chapman, 2003; Coffin, 2004;

Halldén, 1997; Lee & Ashby 2000; Lee & Shemilt, 2003, 2009; Lévesque, 2008; Limón, 2002

Knowledge of causal strategies and second-order concepts. Several strategies are involved in causal historical reasoning. First, a student should understand that explaining historical events always involves looking for multiple causes (Seixas & Morton, 2013). Furthermore, students should model causal relations in a non-linear and interwoven way (Coffin, 2004). Third, students should analyze causes along multiple dimensions, such as time, domain, and role (Chapman, 2003). Fourth, causal historical reasoning entails embedding concrete historical events in the context of more abstract historical phenomena and developments of the period under study (Halldén, 1997). Research has indicated that these strategies are challenging for students and that they, for instance, tend to model causal relations in linear chronological ways (a billiard-ball model), and often overvalue the influence of individual agency at the expense of more structural developments (e.g. Coffin, 2004; Lee & Shemilt, 2009; Halldén, 1997).

To be able to execute these causal strategies, knowledge of second-order concepts constitutes an important building block. Without this conceptual apparatus, students cannot be expected to distinguish between different kinds of causes and causal relationships, or adequately express their analysis. These concepts can be related to expressing time (e.g. “long- and short-term”), characterizing domains (e.g. “economic”, “social”, “political”), or specifying the role specific causes play in an explanation (e.g. “trigger”, “catalyst”, “precondition”). Towards this aim, students should develop a rich vocabulary to express causation in history (e.g. words like, “underpin”, “drive”, “erupt”, “incite”, “underlying”; Woodcock, 2005).

Epistemological beliefs. An important characteristic of historical explanations is the fact that these explanations are interpretative claims and that our perspectives on the past change over time. Historical accounts describe a reality that no longer exists and their reliability can only be evaluated based on

disciplinary criteria of evidence and argument. For many students this constructed nature of causal historical reasoning is not at all clear. Researchers have found that students tend to regard causes and causal relations as fixed and rooted in the past itself (Halldén, 1997; Lee & Shemilt, 2009).

An influential model for conceptualizing epistemological beliefs is the three-stage model designed by Maggioni, VanSledright, and Alexander (2009), based on older generic models of the development of epistemological beliefs (King & Kitchener, 2002; Kuhn & Weinstock, 2002) and qualitative research on beliefs about historical knowledge conducted by Lee and Shemilt (2003). In this model students' beliefs about historical knowledge and knowing are classified within one of three stances—students can hold a copier stance, a borrower stance, or a criterialist stance.

In the copier (or objectivist) stance, students believe that historical knowledge is fixed and that objective truth about the past is possible. For these students, historical knowledge is derived from an outside authority, such as the teacher or the textbook—for these authorities are expected to know these exact 'copies' of the past. In the borrower (or subjectivist) stance, students begin to understand that historical knowledge changes and that people can hold multiple perspectives on the past. However, students in this stance lack an understanding and appreciation of the disciplinary criteria to generate and evaluate historical claims. Because the past is gone and sources are subjective, these students believe that historical claims can never be verified and that historical accounts are merely 'opinions'. Finally, in the criterialist stance, students are able to “coordinate the objective and subjective dimension of historical knowledge” (Kuhn, Cheney, & Weinstock, 2000). Students in this stance understand the temporary and interpretative nature of historical knowledge. However, these students also understand the domain-specific criteria for assessing the reliability of claims—specifically, the criteria of evidence and argument. In this stance, history

is regarded as a discipline and students start to perceive historical thinking as a way of making sense of the world.

TEACHING CAUSAL HISTORICAL REASONING

Based upon the MDL, Alexander (2005) outlines several characteristics of learning environments designed to foster domain-specific reasoning. In our studies, we combine these characteristics with other models of teaching and learning, most notably the model of cognitive apprenticeship (Collins et al., 1991). From this, four pedagogical principles are defined that provide a backdrop for a learning environment designed to foster causal historical reasoning: (a) work on open-ended, realistic tasks, (b) organize social interaction, (c) make thinking visible for instance by working on graphical organizers and concept maps, and (d) raise situational interest or rooted relevance.

These principles have also received attention within research on history education (cf. van Boxtel & van Drie, 2013). For instance, Pontecorvo and Girardet (1993) demonstrated that discussion between students stimulated higher-order reasoning and a study of Del Favero, Boscolo, Vidotto, & Vicentini (2007) added that social interactions heighten students' interest. Studies of van Drie, van Boxtel, Jaspers, and Kanselaar (2005) and van Drie, van Boxtel, and van der Linden (2006) showed the value of working with graphical organizers to structure the exchange of arguments and the effectiveness of collaborative work on open inquiry tasks in order to elicit historical reasoning. Further, previous studies also showed that working with multiple sources elicited more reasoning than working with "voiceless" textbooks (Rouet, Britt, Mason, & Perfetti, 1996; Rouet, Favart, Britt, & Perfetti, 1997; Stahl, Hynd, Britton, McNish, & Bosquet, 1996; Wiley & Voss, 1996; Wiley & Voss, 1999).

Finally, in line with the MDL and the Model of Cognitive Apprenticeship, intervention studies in history also emphasized the importance of explicit

teaching (e.g. De La Paz, 2005; Nokes et al., 2007; Reisman, 2012). However, this research was limited to working with historical sources (instead of causal historical reasoning) and primarily focused on explicitly teaching domain-specific strategies (instead of a more inclusive approach that also focused on second-order concepts and epistemological beliefs). Building on Merrill's (2002) comparison of different instructional theories, we establish that explicit teaching should be operationalized in all (four) phases of teaching and learning—the phases of activation, demonstration, application, and integration. The extent to which explicit teaching influences a student's acquisition of causal strategies, second-order knowledge and epistemological ideas, their individual interest and their ability to construct a causal explanation constitutes the central theme of this dissertation.

CHOICE OF HISTORICAL TOPIC AND PARTICIPANTS

HISTORICAL TOPIC

Learning to do history (in this case, learning to construct causal explanations) cannot be disconnected from learning about history (“first-order knowledge” as VanSledright and Limón called it (2006)). In this study, the outbreak of World War I is the central topic. There are several reasons for this choice. First, practical considerations played a role. The outbreak and the developments of World War I are a mandatory part of the Dutch history curriculum in upper secondary education and the topic is included in all major history textbooks (e.g. Feniks, Geschiedeniswerkplaats, Memo, and Sprekend Verleden). World War I is part of one of the characteristic aspects (“the waging of two World Wars”) of the framework of ten eras that students in upper secondary education are expected to acquire (cf. Board of Examinations, 2013). Furthermore, the students in our research already possessed some level of prior knowledge about World War I because the topic had also been studied in the 9th grade. In addition, a wealth of

suitable sources are available on this topic that can assist the design of our lessons and writing tasks.

One of the most important reasons for choosing World War I is that it is a classic subject in secondary education for practicing causal historical reasoning. The outbreak of World War I allows for analyzing and weighing multiple structural phenomena and developments, such as nationalism and the system of alliances, but is also influenced by short-term, personal and more contingent factors. To what extent for instance did the murder of Archduke Franz-Ferdinand in June 1914, or the Franco-German war of 1870-1871, directly or indirectly contribute to the outbreak of war?

The outbreak of World War I has also been the topic of long lasting historiographical debate (cf. Andriessen, 1998; Kautsky (with Tromp), 2001; Keegan, 1998; Lorenz, 1998; Mombauer, 2002). As early as 1914 all warring countries published their own accounts of who was responsible for the outbreak of the war and supported their claims by disclosing large source collections of (official) documents, telegrams etc. Especially after World War II, the idea of a German “Sonderweg” gained momentum and the outbreak of World War I was often reinterpreted in this light. For instance, in 1961 the German historian Fritz Fischer argued in his book “Griff nach der Weltmacht” that Germany was solely responsible for the outbreak of World War I, which started the so-called Fischer-controversy. Since the 1960’s, new perspectives on the outbreak of World War I have been developed. Historians have focused on the goals and motives of Russia and France and interpreted the origins of the war in the context of broader developments (e.g. tensions in the Balkans, the decline of the Ottoman Empire, the rise of modern imperialism). Historians have pointed at (different) political, economic, cultural, as well as more personal, biographical aspects. This complex and multi-causal nature of the explanations for World War I leaves much room for students to analyze, categorize, connect and evaluate multiple causes, and reflect on the interpretative nature of historical knowledge.

PARTICIPANTS

The participants of the two experimental studies in this thesis are 11th grade preuniversity students (5VWO) from one school. The choice for this age group and level was made for two reasons. First, causal historical reasoning constitutes an important educational goal in the upper classes of the two highest educational levels in the Netherlands—10th and 11th grade higher general continued education (HAVO) and 10th, 11th and 12th grade preuniversity education (VWO). Second, for preuniversity students, 11th grade constitutes a pre-exam year, which leaves room in the program to ‘dive in’ a little deeper.

We conduct the intervention studies in one school, situated in a relatively prosperous suburban neighborhood near Amsterdam, the Netherlands. The school has 1700 students enrolled in one of the two highest school-levels—higher general continued education (HAVO) or preuniversity education (VWO). For the quasi-experimental study, the choice for one school is made because of the exploratory nature of this study (in which we piloted the lesson-unit and several research-instruments). For the experimental study, described in chapter 3, the choice is made, in order to be able to control the implementation as much as possible. In this study, the researcher and a professional historian who both hold a teachers’ degree, teach the lessons (switching between conditions), to prevent potential teacher effects. Because of the randomization, this study can be implemented with a smaller sample-size than quasi-experimental studies.

The study described in chapter 5, focusing on developing a questionnaire to measure students’ epistemological beliefs about history is conducted with 922 history exam-students originating from 16 schools in the Netherlands. 556 students are enrolled in 11th grade higher general continued education (HAVO) and 366 students in 12th grade preuniversity education (VWO). The national institute for curriculum development in the Netherlands (SLO) recruited the schools, and the questionnaire was part of a larger survey designed to evaluate

the attitude of Dutch students towards the history curriculum and their interest in the subject of history.

ORGANIZATION OF THE THESIS

In chapter 2, we develop a domain-specific theory in which we operationalize the learning goals connected to causal historical reasoning and align these goals with pedagogical principles that are expected to foster the development of this reasoning. Subsequently, we design research-instruments and a lesson-unit focusing on explaining the outbreak of World War I. Third, we conduct a quasi-experimental study with 11th grade preuniversity students to investigate the effectiveness of our pedagogical design, with a focus on the importance of explicit teaching.

Chapter 3 presents the results of a randomized controlled follow-up study, in which we more thoroughly investigate the effects of a core pedagogical principle in our model, namely explicit teaching, on 11th grade students' ability to reason causally in history. This study defines explicit teaching broadly, as consisting of strategies and second-order concepts involved in causal historical reasoning, as well as of epistemological questions. Differences are investigated between the explicit and an implicit teaching condition on students' (a) second-order and strategy knowledge, (b) their epistemological beliefs, and (c) their ability to construct a causal explanation. We also investigate differences on topic knowledge and individual interest. Self-reports are applied to explore the learning gains more qualitatively. Finally, we use correlational analysis to explore the relationships between different constructs in our model.

In chapter 4, we take a qualitative look at how (a random sample of) 20 students from the experimental group, revise their pre-test essays after the lesson-unit. We conduct this study, because both intervention studies demonstrate that, although students' knowledge of concepts and strategies related to historical

causation increases during the lessons, students find it difficult to integrate this knowledge in their writing tasks. Therefore, the goal of this study is to explore in detail the nature of students' revisions and better understand the complexities of expressing causal historical reasoning in a writing task. Furthermore, students were found to write their essays within a more linear, or a more thematic text-structure. Consequently, we explore the relationship between the amount and type of revisions that students integrated into their essays and these text-structures.

In chapter 5, we revisit one of the central constructs of this dissertation. This chapter focuses on assessing students' epistemological beliefs. During both intervention studies, these beliefs about the nature of historical knowledge and knowing surfaced as an important component in fostering (causal) historical reasoning. Furthermore, students reported to value the epistemological dimension in the lessons-unit. However, these studies also showed that the construct was notoriously difficult to assess, even though we used a validated instrument (Maggioni, VanSledright, Alexander, 2009; Maggioni, 2010). Drawing on the psychometric and theoretical difficulties encountered with measuring students' epistemological beliefs in history in both experimental studies, in this chapter we develop and test an alternative epistemological beliefs questionnaire.

Chapter 6 brings together the main findings of the four studies and discusses the implications for the practice of history teaching. This chapter also reflects upon the strengths and weaknesses of the methodological choices and suggests directions for future research.