Enhancing Pre-Service History Teachers' Historical Reasoning Through a Computer-Supported Collaboration Script

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Abstract: The study focusses on the use of collaboration scripts to support pre-service history teachers' historical reasoning. 18 student dyads collaborated on a historical inquiry activity, based on several historical sources. Al dyads were guided by a collaboration script sequencing activities, but half of them received additional support to stimulate argumentation. Preliminary findings regarding the impact on students' interaction, quality of argumentation and domain-specific knowledge will be presented at the conference.

Introduction

Research on history learning has consistently emphasized that students should not only gain insight into the past, but must also come to understand the methods historians use and be able to reason about historical evidence. These competences can be acquired through historical inquiry, which requires students to integrate information about the past from a variety of sources in order to present their own account of the past (Van Drie & Van Boxtel, 2008; VanSledright & Limón, 2006). The process of reasoning with information about the past is generally described as *historical reasoning* (Monte-Sano, 2010). According to Van Drie and Van Boxtel (2008), it generally includes one or more of the following components: asking historical questions, analyzing sources, situating phenomena in context, forming arguments, using substantive concepts and/or using meta-concepts. Previous findings confirm that an engagement in historical reasoning promotes students' understanding of how historical knowledge is attained, and also increases students' knowledge and recall of the historical phenomena which they studied (VanSledright & Limón, 2006).

Although students cannot be expected to handle information in an experts' manner, they should nevertheless learn to adopt an analyzed approach when handling source information (Perfetti, Britt, Rouet, Georgi, & Mason, 1994). However, this can be very demanding of students, as historical reasoning is a complex process (Van Drie & Van Boxtel, 2008). Spoehr and Spoehr (1994) argue that *argumentation* in particular is the most difficult aspect of historical reasoning. Forming a historical argument is not the same as simply giving one's point of view, as a claim is worth little without evidence to support it (Monte-Sano, 2010). Within the domain of history, argumentation is largely a process of informal reasoning, which means that evidence and arguments have to be weighed against each other to form a conclusion that is never definite, but more or less probable (Voss, Perkings, & Segal, 1991). Previous research confirms that this particular aspect of argumentation in history poses a challenge to students. It was found that students generally present several arguments in support of their claim, but rarely consider counterarguments or weigh arguments pro and contra (Van Drie, Van Boxtel, Jaspers, & Kanselaar, 2005).

Van Drie (2005) states that collaborative reasoning tasks can elicit processes that enhance historical reasoning and the learning of history, as discussion leads to higher-level historical reasoning. Therefore, *computer-supported collaboration scripts* seem a fitting approach to support historical reasoning. Collaboration scripts consist of a set of guidelines describing how students have to collaborate (Dillenbourg & Jermann, 2007). According to Kollar, Fischer and Slotta (2007), collaboration scripts are particularly suited for open-structured inquiry activities, such as the ones in history, where a lack of specific instruction may be detrimental to the learning process. Previous research has demonstrated how a collaboration script can prescribe approaches for dealing with the task that a student wouldn't spontaneously engage in (Weinberger, Ertl, Fischer, & Mandl, 2005). Therefore, the aim of this study is to examine whether a collaboration script can to stimulate students' argumentation during historical inquiry activities.

Method

The study was carried out with 36 pre-service history teachers (2 classes) from the second year of a three-year teacher education program, leading to a bachelor degree of history teacher in the first two grades of secondary education. The majority of the participants had received no prior higher education before starting with this program, and enrolled directly after graduating secondary education. Each students was randomly assigned to a dyad, in which he or she had to collaborate with a student from the other class.

During a four-hour intervention, student dyads collaborated on an inquiry activity within the WISE environment (Linn, Clark, & Slotta, 2003). Students had to study a collection of 8 historical sources describing the English peasants' revolt of 1381. Both fragments of original writings as well as excerpts from texts written by contemporary historians were included. Each student dyad was asked to review these sources in order to answer the following question: 'What was, according to you, the main cause of the revolt: grievances resulting

from excessive taxation or complaints about serfdom?" After reviewing all the sources, students had to write an argumentative text in which they had to explain and defend their point of view.

Following a quasi-experimental design, students were divided over two conditions. In both conditions, students received roles to help them study the sources. One student had to act as a critic, while the other one was assigned the role of summarizer. Each time the students moved on to the next source, they had to change roles. In both conditions, the task of the critic was to rate the trustworthiness of the source and review the ratings given to previous sources. In the control condition, the summarizer was asked to examine what information was important. The summarizer in the experimental condition had to identify the source's point of view regarding the main cause of the revolts (choosing either grievances resulting from excessive taxation or complaints about serfdom), and use the information within the source to form arguments supporting or contradicting this point of view. After studying all sources, student dyads had to discuss the main cause of the rebellion. To stimulate discussion, each student was asked to defend on of the possible main causes, while their partner had to defend the other. It is expected that the collaboration script in the experimental condition will result in an increased attention for argumentation in students' interaction, as well as a higher quality of their argumentative text. It is also possible that actively using the sources' information to form arguments will promote a better understanding of the topic.

Therefore, participants' interaction during the task was be taped and subsequently transcribed, in order to conduct an analysis focusing on students' participation and the content of their interaction. Next to this, argumentative text each dyad composed makes it possible to examine the quality of each dyad's argumentation. Finally, a pre-posttest was conducted to measure students' learning gain. The posttest also included a compact measure regarding participants' experiences within the CSCL environment.

Results

Whether the experimental condition had an impact on students' interaction, the quality of their argument, or their learning gains will be determined through further analysis. As the study was recently conducted, preliminary results will be available by the time of the poster presentation.

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