



Narrative competence and epistemological beliefs of German Swiss prospective history teachers: A situated relationship

Martin Nitsche

Monika Waldis

FHNW School of Education, Aarau, Switzerland

ABSTRACT

Few history education studies have indicated that school students' epistemological beliefs affect their historical thinking and writing. Some research has suggested that history teaching could affect these aspects. Several history educators have assumed that (prospective) history teachers' epistemological beliefs are related to their ways of teaching and to their ability to think historically. Yet evidence underpinning these assumptions is rare. To address this gap, we investigated how prospective German Swiss history teachers' epistemological beliefs impacts their reading and writing abilities in terms of narrative competence. We therefore applied argumentative writing tasks to assess participants' narrative competence and surveyed their epistemological beliefs and further contextual covariates (e.g. situational interest, number of history courses attended at university). Results show small effects of participants' epistemological beliefs on their narrative competence, while their situational interest is more influential. Other contextual constructs (e.g. number of history courses attended at university) are also predictive. Overall, our results indicate that narrative competence and epistemological beliefs are correlated, yet situated in contextual aspects.

KEYWORDS

Narrative competence, epistemological beliefs, situational interest, self-efficacy, history teacher training

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Introduction

One important way of knowing is the narrative mode. This helps people to construct meaningful knowledge about past human action in the form of historical narrations. Researchers long distinguished this mode from an analytical-scientific one that aims to construct descriptions, explanations, or argumentations based on cultural or natural realities (Bruner, 1986; Novick, 1988). However, Ricœur (1984) indicated that historians include these forms when they construct narrations. Rüsen (2017) defined the ability to do so as narrative competence. History educators have conceptualized the thinking process behind this capacity by applying several concepts, including “historical thinking” or “understanding” (e.g. Seixas, 2017). In order to foster this capacity in school students, it seems obvious that teacher training needs to develop it in prospective history teachers as part of their professional knowledge (e.g. Heuer, Resch, & Seidenfuß, 2017; Monte-Sano & Budano, 2013). Their epistemological beliefs also need to be supported as these could affect teachers’ professional knowledge, their teaching, and student learning in class (see Lunn, Walker, & Mascadri, 2015).

Few history education studies have so far illumined teachers’ professional knowledge in terms of narrative competence (e.g. Bohan & Davis, 1998; Borries, 2007), nor its relation with epistemological beliefs (e.g. Maggioni, 2010; Yeager & Davis, 1996). Hence, we conducted a study with 175 prospective German Swiss history teachers, and we asked how well-trained participants’ narrative competence is and which epistemological beliefs they hold. We also explored whether participants’ epistemological beliefs affect their narrative competence. Further, we investigated whether epistemological beliefs are most influential compared to several covariates (e.g. situational interest, number of history courses attended at university). We, therefore, applied two material-based writing tasks to assess participants’ narrative competence. We also used survey methodology to analyze their epistemological beliefs and further covariates (e.g. situational interest, number of history courses attended at university). On this basis, our investigation contributes first statistical evidence to prior qualitative studies on the relation between the epistemological beliefs and narrative competence of prospective history teachers (e.g. Seixas, 1998; Yeager & Davis, 1996).

Theoretical background

Overall, no consensus exists on how to conceptualize history teachers’ professional knowledge (e.g. Tuithof, Logtenberg, Bronkhorst, van Drie, Dorsman, & van Tartwijk, 2019; van Hover & Hicks, 2018). For instance, Baumert and Kunter (2013) adopted Shulman’s (e.g. 1986) seminal work. They separated teachers’ professional competence into pedagogical knowledge (PK), content knowledge (CK), pedagogical content knowledge (PCK), and subjective constructs such as values and beliefs. We have followed this approach in our prior work on prospective German Swiss history teachers’ PCK (e.g. Waldis, Nitsche, & Wyss, 2019), CK (e.g. Waldis, Marti, & Nitsche, 2015), and beliefs (e.g. Nitsche, 2019).

Narrative competence

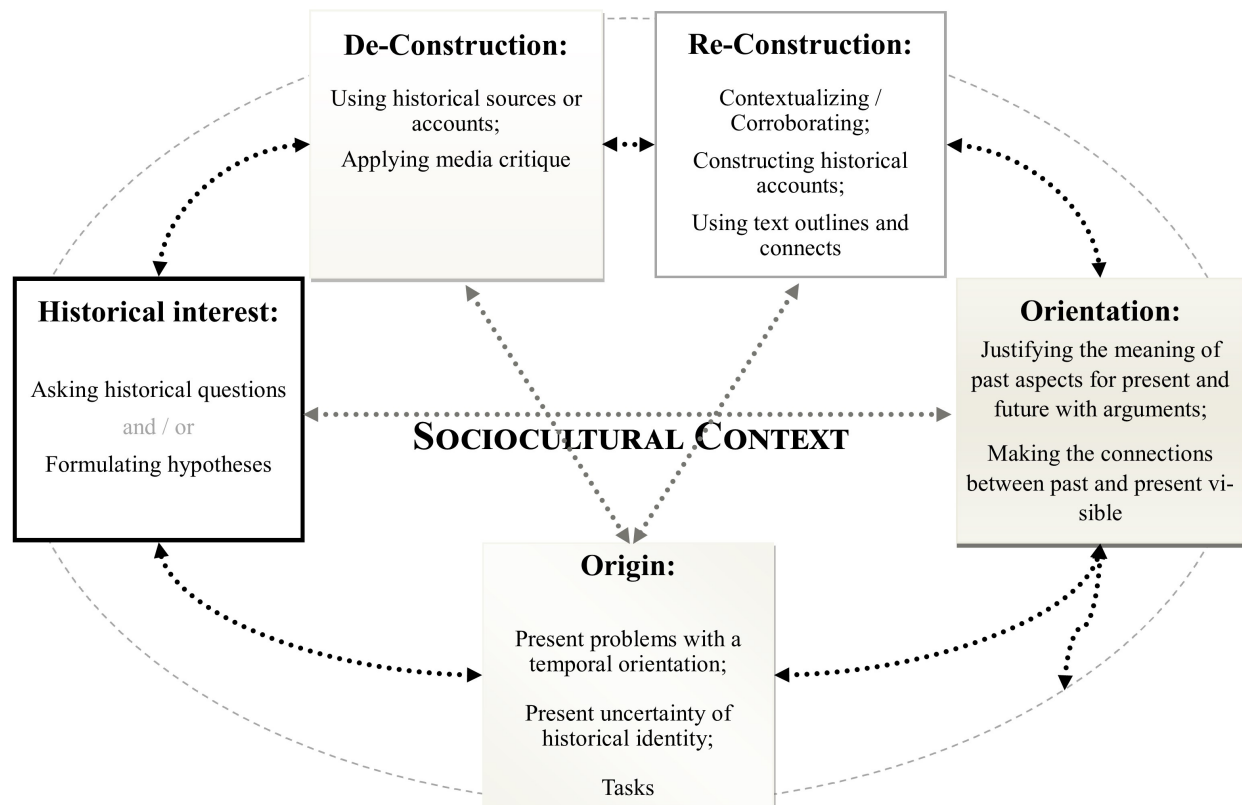
History teachers’ CK might be defined as the declarative (e.g. curricular content) and procedural knowledge (e.g. analyzing sources and accounts) that teachers use to apply their narrative competence to teaching (e.g. Waldis, Nitsche, Marti, Hodel, & Wyss, 2014). To conceptualize participants’ narrative competence, we adopted existing concepts on historical cognition. English-speaking authors have described this type of cognition variously, among others, as “historical thinking” (Wineburg, 1991a, 1991b, 1998), “historical reasoning” (van Boxtel & van Drie, 2018; van Drie & van Boxtel, 2008), or “historical understanding” (VanSledright, 2011, 2014). German-speaking authors have mostly defined the outcome of historical cognition in terms of competence (see Barricelli, Gautschi, & Körber, 2012). This refers to individuals’ capacity to adopt knowledge, skills, and attitudes in order to solve problems in various situations (e.g. Weinert, 2001). To

theorize narrative competence, we adopted the four components of the “FUEr model”: (1) the competence to ask or identify historical questions; (2) the methodological competence to re-construct (i.e. synthesize) or de-construct (i.e. analyze) historical statements; (3) the orientation competence to relate historical information and judgments to present lives; and (4) the subject-matter competence (“Sachkompetenz”) to apply, for example, conceptual (e.g. revolution, power) or methodological knowledge to historical thinking (e.g. Körber & Meyer-Hamme, 2015). We operationalized these aspects for empirical research by connecting them to the aforementioned concepts and prior research (Gollin & Nitsche, 2019; Nitsche & Waldis, 2016; Waldis, Marti, et al., 2015). We differentiated narrative competence into four segments and several interrelated activities (see FIGURE 1):

- a) *Historical interest*: To solve problems with a temporal orientation (e.g. uncertainties of identity), or to react to institutional environments (e.g. school assignments, a controversial museum exhibition), people might focus on past aspects and transform their historical interest into *historical questions, claims, or hypotheses* (e.g. Körber & Meyer-Hamme, 2015; van Drie & van Boxtel, 2008; VanSledright, 2011).
- b) *De-Construction*: Based on these questions, claims, or hypotheses, people *use historical sources or accounts* and identify relevant information (e.g. Voss & Wiley, 1997; Waldis, Hodel, et al., 2015). They also apply *media criticism* to evaluate the reliability of media and their producers’ intentions (e.g. van Drie & van Boxtel, 2008; Wineburg, 1991a, 1998).
- c) *Re-Construction*: To develop historical statements, people *corroborate or contextualize media* (e.g. Schreiber et al., 2006; Wineburg, 1991a, 1998). To include media into historical knowledge as text, they *use text outlines* (e.g. Barricelli, 2011), *organize information in the form of narrative, explanatory, or argumentative accounts* (e.g. VanSledright, 2011), and *apply connects* (e.g. “led to,” “it follows”) to interrelate historical statements (e.g. McCarthy Young & Leinhardt, 1998).
- d) *Orientation*: To orient themselves or to react to environments, people *justify the meaning* of past aspects for present and future with arguments (e.g. Rüsen, 2017). To *make the connections between past and present visible*, they reveal that their historical account is a human construct. They therefore visualize their authorship (e.g. “from my point of view”) or claim that their account presents a selected (e.g. “for example”) and fragmentary (e.g. “as far as we know”) historical view (Waldis, Marti, et al., 2015).

In addition, distinct types of knowledge such as substantive (e.g. events, particular narratives) and metahistorical concepts (e.g. continuity and change, causes and consequences) seem to be involved (e.g. Körber & Meyer-Hamme, 2015; van Drie & van Boxtel, 2008; VanSledright, 2011). Studies on school students’ historical reasoning have indicated that people’s subjective constructs, such as their interest in history (e.g. their “willingness to study history”) or their epistemological beliefs, might affect their narrative competence (van Boxtel & van Drie, 2018, p. 152). Overall, narrative competence can be defined as a capacity of historical thinking in which individuals use the aforementioned historical activities, knowledge, epistemological beliefs, and interest by dealing with historical sources or accounts to solve historical problems in various situations or to react to institutional environments.

FIGURE 1. Model of narrative competence
Modified from Gollin and Nitsche (2019, p. 221)



Epistemological beliefs

Adopting prior work from educational psychology (e.g. Hofer, 2016; Hofer & Pintrich, 1997), we defined prospective history teachers' epistemological beliefs as their subjective concepts of the nature of historical knowing and structure of historical knowledge (e.g. Nitsche, 2019). After reviewing the relevant literature in the philosophy of history (e.g. Lorenz, 2011; Rüsen, 2017), about historical concepts in history education (e.g. Evans, 1990; O'Neill, Guloy, & Sensoy, 2014), and about epistemological beliefs in history education (e.g. Maggioni, Alexander, & VanSledright, 2004, 2009; Maggioni, 2010; Stoel, Logtenberg, Wansink, Huijgen, van Boxtel, & van Drie, 2017), we differentiated epistemological beliefs into three positions consisting of six dimensions (see TABLE 1). *Positivists* assume, for example, that history and past are identical, or that knowledge is directly accessible in sources and accounts. *Skeptics* believe, for example, that history reflects an individual understanding and that it is therefore an uncertain matter of opinion. *Narrative constructivists* assume, for example, that history only exists in the form of narratives about the past. These narratives might be justified by socially shared perspectives using argumentative reasoning in relation to sources, accounts, concepts, and values (Nitsche, 2016, 2017, 2019).

TABLE 1. Model of epistemological beliefs in history
 Modified from Nitsche (2016, p. 177)

Domains & Positions , and <i>Dimensions</i> (e.g. Hofer & Pintrich, 1997)	Educational Psychology (Maggioni, 2010)		
	Copier	Borrower	Criterialist
	Theory of History (e.g. Lorenz, 2011; Rüsen, 2017)		
	Positivism	Skepticism	Narrative Constructivism
<i>Concept of history</i>	Past = history	History = present	Past ≠ history
<i>Origin of knowledge</i>	Directly in sources	Individual understanding of media	Reconstruction through individual and joint interpretation
<i>Justification for knowing</i>	Not needed	Matter of individual understanding	Matter of shared reasoning
<i>Structure of knowledge</i>	Picture of the past	Individual story	Historical narration
<i>Certainty of knowledge</i>	Objective	Uncertain	Socially controlled perspective
<i>Application of knowledge</i>	Explain how it has been through laws	Form individual opinions	Orientation in time

Teachers' narrative competence and their epistemological beliefs

Although the structure of (prospective) history teachers' epistemological beliefs has been variously explored (e.g. Hartmann, 2019; Miguel-Revilla, Carril-Merino, & Sánchez-Agustí, 2020; Nitsche, 2019; Voet & De Wever, 2016), few studies have considered the connection between such beliefs and narrative competence. Research from USA, Canada, and German-speaking countries has suggested that prospective history teachers struggle to apply sourcing or writing activities (Borries, 2007; Seixas, 1998; Waldis, Marti, et al., 2015). Some work has indicated that this might be explained by student teachers' naive view on historical epistemology (Seixas, 1998; Yeager & Davisz, 1996). In terms of beliefs, Maggioni's (2010) study on three US high school teachers found conflicting stances (e.g. subjectivist and criterialist), which were, however, not systematically related to their source interpretations. Gottlieb and Winburg (2012) showed that religious US historians switched between academic (e.g. plausibility) and religious beliefs (e.g. personal engagement) when investigating historical or religious sources while non-religious historians did not. This suggests that the connection between the analytical aspects of narrative competence and epistemological beliefs depends on contextual aspects (e.g. content of sources) and on additional beliefs (e.g. religion).

To date, only three studies with school or college students have provided statistical evidence for the connection between epistemological beliefs and aspects of historical cognition. Stoel et al. (2017) found that the criterialist beliefs (e.g. history as context-based interpretation) of Dutch school students correlated positively, yet merely moderately with their causal reasoning strategies. Mierwald (2020) suggested that the criterialist beliefs of German school students predicted the quality of their historical argumentations. Wiley et al. (2020) found, for example, that beliefs about the simplicity and certainty of historical explanations (e.g. historical explanation as unchanging over time) among US college and school students correlated slightly, yet negatively with the quality of their historical explanations. Overall, quantitative studies on the relation between student history teachers' epistemological beliefs and their narrative competence are still missing.

Methods

To address the gap identified in the previous section, we conducted a study with 175 prospective German Swiss history teachers, and we investigated participants' narrative competence and their epistemological beliefs. The main purpose was to analyze the connections between participants' positions of epistemological beliefs (e.g. positivist, skeptical) and their narrative competence in terms of analytical (i.e., De-Construction) and synthesizing (i.e., Re-Construction) aspects. Furthermore, we were interested in whether participants' narrative competence was situated within contextual aspects (e.g. no. of visited history courses at university).

Research questions

In detail, we raise four questions:

- Q1 How well-trained is the narrative competence of prospective German Swiss history teachers?
- Q2 Which position on epistemological beliefs (e.g. positivist, skeptical) do participants agree with?
- Q3 Do participants' epistemological beliefs affect their narrative competence without and after adjusting for covariates (e.g. situational interest, age, sex, number of history courses attended at university)?
- Q4 Are participants' epistemological beliefs more influential compared to contextual covariates (e.g. situational interest, number of history courses attended at university)?

Participants and setting

We used data from the "VisuHist" project on the professional competence of prospective German Swiss history teachers (e.g. Waldis et al., 2019). In Switzerland, history teacher training is organized by the cantons. Therefore, and to cover all trainee history teachers in German-speaking Switzerland, we asked all history teacher educators from all six German Swiss teacher training institutions delivering courses in history didactics for lower and upper secondary school to participate with their students. We analyzed data from the 2014–2016 cohort at the end of teacher training in history didactics. To recruit participants, we approached 197 students and received answers from 186 volunteers. The final data set consisted of 175 participants, after outliers were eliminated using boxplots for endogenous (narrative competence) and exogenous variables (e.g. age, epistemological beliefs). Participants were $M = 27.05$ ($SD = 6.68$) years old. Ninety-one students were female (55.2 %). One hundred and thirty-one participants (74.9%) were lower secondary school trainees from five institutions while 44 participants were enrolled in upper secondary teacher training at two institutions. The average number of semesters was 5.10 ($SD = 2.73$). They had visited an average of $M = 5.98$ ($SD = 7.66$) history courses at the university (see Appendix E for more details).¹ We investigated participants' narrative competence, beliefs, and additional covariates (e.g. age, situational interest) by giving them a writing task and several questionnaires during a 90-minute lecture in history didactics (paper & pencil).

Instruments

Narrative competence. Prior research has found that argumentative writing tasks more effectively foster historical thinking skills than narrative writing (e.g. Voss & Wiley, 1997; Waldis, 2016). Accordingly, and to answer Q1–Q4, we asked participants to write a historical argumentation. Prior work has indicated that writing tasks including controversial or commonly known topics encourage students to construct judgments without evidence-based reasoning (e.g. Waldis, Hodel, et al., 2015). To control for this, we provided both (1) a commonly discussed topic that is also part of the German Swiss school curriculum and (2) a topic that is more familiar to experts. We

randomly assigned (1) the topic “Cuba Crisis in the Cold War” to 81 participants (46.3 %) and (2) the topic “Swiss emigration to Brazil in the 19th century” to 94 participants. Both assignments were similarly structured (see Appendix A). Based on participants’ answers (see Appendix B for an example), we evaluated their narrative competence along seven categories derived from our model of narrative competence (see Appendix C). Every category was applied using scores between 0 and 2 based on prior research (Nitsche & Waldis, 2016). Interrater reliability between the first author and a second rater was partly sufficient (TABLE 2). Therefore, they evaluated all texts independently and discussed differences until reaching consensus.

Confirmatory factor analysis (CFA) involving *diagonally weighted least squares estimation* (DWLS) in R-package “lavaan” (version 0.6-3) was applied to test construct validity (Rosseel, 2012). According to Kline (2016), the factor loadings ($\lambda = .54-.77$) and fit indices ($n = 175$, $CFI = 0.99$, $TLI = 0.99$, $RMSEA$ [CI 90% [.00, .06]] = .03, $SRMR = .04$) indicated a two factorial model. Based on our model of narrative competence, we interpreted the first factor and its related two categories (e.g. “Media critique”) as indicators of “De-Construction” ($n = 175$, $\alpha = .70$) and the second factor and its related five categories (e.g. “Structure of argumentation”) as indicators of “Re-Construction” ($n = 175$, $\alpha = .76$). Aspects of “Orientation” (e.g. “Justification of historical meaning”) had to be fixed to Re-Construction. Moreover, CFA found that De-Construction and Re-Construction correlate positively, yet only slightly ($r = .36$, $p < .01$). This indicates that neither is completely independent, but might be interpreted as subskills of narrative competence.

TABLE 2. Interrater reliability based on percentage agreement and corrected for chance (Cohen’s Kappa (κ))

Segment of narrative competence & category	Percentage agreement [CI 95%]	Cohens’ κ [CI 95%]
De-Construction		
<i>Use of historical media</i>	77.78 [0.69, 0.87]	0.49 [0.30, 0.69]
<i>Media critique</i>	73.33 [0.57, 0.90]	0.40 [0.03, 0.77]
Re-Construction		
<i>Structure of argumentation</i>	73.33 [0.57, 0.90]	0.40 [0.03, 0.77]
<i>Text outline</i>	60.00 [0.41, 0.79]	0.10 [-0.29, 0.49]
<i>Connects</i>	60.00 [0.41, 0.79]	0.10 [-0.29, 0.49]
Orientation		
<i>Justification of historical meaning</i>	73.33 [0.57, 0.90]	0.40 [0.03, 0.77]
<i>Transparency of text construction</i>	53.33 [0.34, 0.72]	-0.05 [-0.42, 0.32]

Note: The agreement was estimated based on texts ($n = 10$) selected at random. The agreement for each rubric was estimated based on 3 (no. achievable points) x 10 (no. of texts) decisions of raters.

Epistemological beliefs. To answer Q2–Q4, we used their answers to the “Epistemological Beliefs Questionnaire in History (EBQH)” (see Appendix D) from prior research (Nitsche, 2019). Based on the aforementioned theory, the EBHQ presents five adopted items from Maggioni (2010) and 19 new items on positivism, skepticism, and narrative constructivism. Participants were asked to answer the questionnaire on a 4-point scale (from *not true* to *true*). Four items each (see Appendix E) presented positivism ($n = 164$, $\alpha = .63$), skepticism ($n = 164$, $\alpha = .72$), and narrative constructivism ($n = 164$, $\alpha = .62$).

Covariates. In order and to answer Q3–Q4 we collected several individual and contextual background variables. Prior work has indicated that people’s *situational interest* and *self-efficacy* might affect their academic reading and writing. For example, Hidi et al. (2007, p. 203) found “that students’ interest in specific writing topics and their self-efficacy for the writing task” influenced their performance. Alexander (2003) defined situational interest as a construct that consists of valuing the relevance and enjoyment of particular learning activities. Situational self-efficacy “refers to people’s specific judgments and beliefs about their abilities like reading a book, [or] writing a poem” (Walker, 2003, p. 173). Hence, we asked participants after they had solved the

writing task to answer a 10-item questionnaire adopted from Trautwein et al. (2017). Participants were asked to answer the questionnaire on a 4-point scale (from *not true* to *true*). Statistical analyses indicated that three items (e.g. “I enjoyed the exploration of the materials”) represented participants’ situational interest ($n = 164$, $\alpha = .78$). Situational self-efficacy ($n = 164$, $\alpha = .72$) consisted of two items (e.g. “I have succeeded in extracting and presenting the important things from the given documents”). In addition, age was calculated as the difference between the survey date and participants’ date of birth. Their sex was registered with a dichotomous variable (1 = *female*, 2 = *male*). To gain insights into their parents’ socio-economic status (SES), we asked participants to indicate the number of books in their household (1 = *0 to 10 books* to 6 = *more than 500 books*). They were also asked to mention their parents’ highest level of education (1 = *no certification* to 10 = *PhD*). Based on participants’ answers to these three items, parents’ SES was estimated as a latent construct within *Structural Regression models* (SR-models). We also requested participants to indicate the average number of history lessons they had attended at school per week (1 = *one lesson* to 5 = *more than 4 lessons*), as well as the number of history courses attended at university (open format). We recorded the teacher training program (0 = *upper secondary education*, 1 = *lower secondary education*) and the writing topics (0 = *Cuba Crisis*, 1 = *Swiss emigration to Brazil*) with dichotomous variables.

Statistical procedures

Descriptive statistics. To answer Q1 and Q2 (see above), we calculated the mean values for De-Construction, Re-Construction, and for the three positions on epistemological beliefs. To gain insights into the distribution within our sample, we summarized the percentages of both constructs.

Structural equation models. To answer Q3 and Q4, we estimated CFA and SR-models (Kline, 2016) by applying *maximum likelihood estimation with robust standard errors* (MLR) in R-package “lavaan.” Two CFA were applied to give insights into the correlation between De-Construction and Re-Construction and between the various positions on epistemological beliefs. We analyzed three SR-models to investigate the predictions of participants’ epistemological beliefs on De-Construction and Re-Construction. We adapted the *forward-selection approach* to linear regressions (Fahrmeir et al., 2009) to include the independent variables in three steps. First, participants’ epistemological beliefs were included without adjusting for covariates. Second, situational interest and self-efficacy were included. Third, the aforementioned additional variables were included. To identify adequate models, we used the *R-squared-measures* and the model fit indices (e.g. CFI, TFI, RSMEA; Kline, 2016). We employed standardized coefficients to provide comparable effect sizes and interpreted the coefficients similar to Cohen’s (1988) *d* (small = .2 - .5, medium = .5 - .8, large > .8).

Missing analyses. Missing data analyses indicated a small number of missing values (see Appendix E). Investigating the structure of missing data revealed no systematic picture. We thus assumed the *missing at random* (MAR) condition and hence used a *full information maximum likelihood approach* (FIML) to the CFA and SR-models.

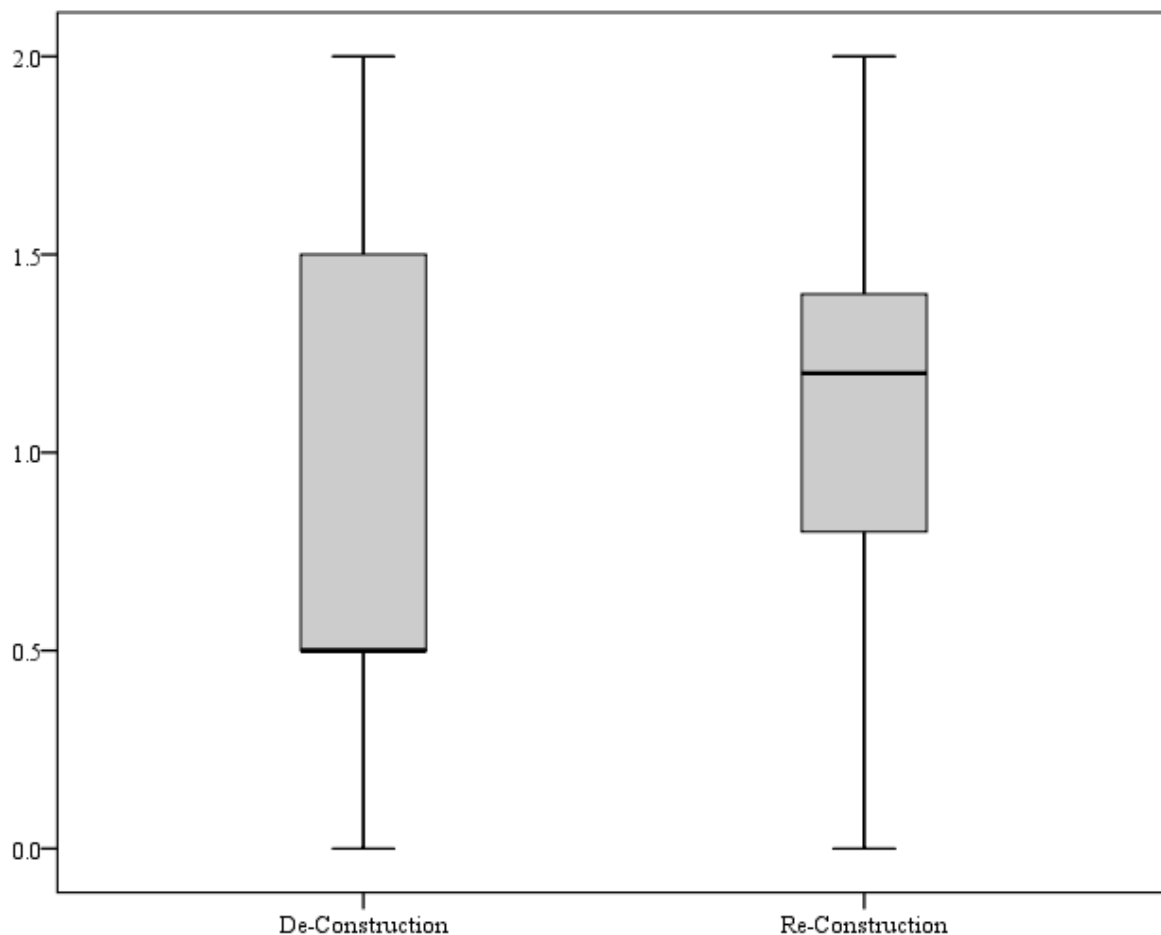
Results

Narrative competence

To answer Q1, we calculated the mean values. To provide insights into performance distribution within the sample, we analyzed mean differences and summarized percentages within (1) the lowest, (2) middle, and (3) highest performance group based on the 25% and 75% percentiles for De-Construction ($M_{(1)} = 0.00-0.50$, $M_{(2)} = 1.00$, $M_{(3)} = 1.50-2.00$) and Re-Construction ($M_{(1)} = 0.00-0.80$, $M_{(2)} = 1.00-1.20$, $M_{(3)} = 1.40-2.00$), respectively.

On average, participants achieved $M = 0.83$ points ($SD = 0.61$, $Min = 0$, $Max = 2$) for De-Construction and $M = 1.05$ points ($SD = 0.49$, $Min = 0$, $Max = 2$) for Re-Construction. A one-sample t-test ($n = 175$, $t(174) = -4.62$, $p < .001$) indicated a significant difference. According to Cohen (1988), the effect size ($r = .33$) is moderate. Figure 2 illustrates the varying percentiles. For De-Construction, 95 (54.29%) participants were in the lowest, 33 (18.86%) in the middle, and 47 (26.86%) in the highest group. For Re-Construction, 61 (34.86%) participants were in the lowest, 59 (33.71%) in the middle, and 55 (31.43%) in the highest group. The results indicate that most participants belonged to the bottom group for De-Construction, yet not for Re-Construction. It seems that nearly half struggled to persuasively use historical media and media critique while they performed better in the synthesizing activities (e.g. establishing connects or justifying historical meaning).

FIGURE 2. Boxplots with percentiles for De-Construction and Re-Construction



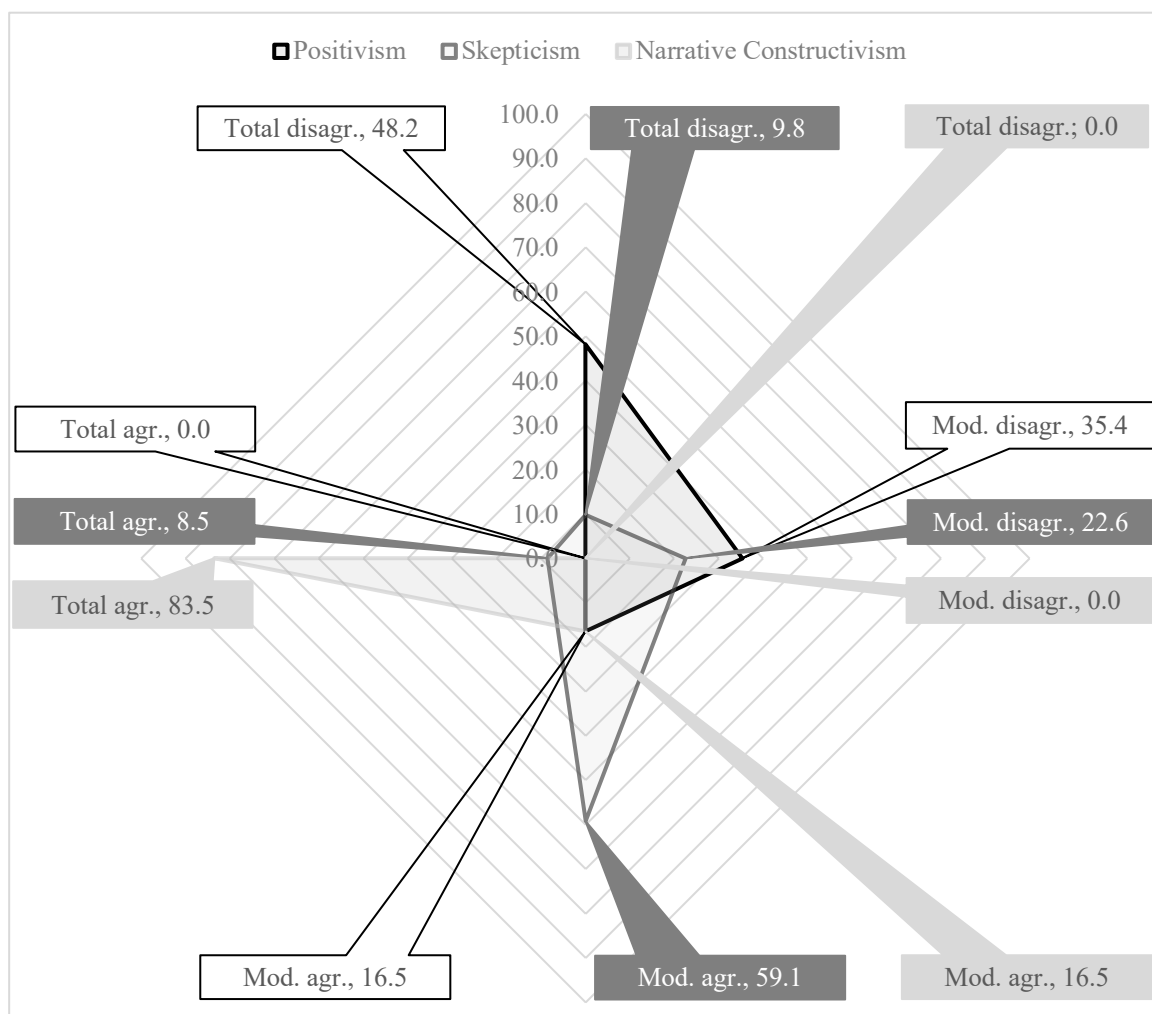
Epistemological beliefs

To answer Q2, we calculated the mean values and summarized percentages (see Figure 3) in terms of total ($M = 1.00$ – 1.50) to moderate disagreement ($M = 1.51$ – 2.00) and moderate ($M = 2.01$ – 3.00) to total agreement ($M = 3.01$ – 4.00). In addition, we estimated correlations based on CFA.

Results indicate that participants disagreed with positivist beliefs ($M = 1.67$, $SD = 0.48$, $Min = 1.00$, $Max = 3.00$), yet agreed with skeptical ($M = 2.37$, $SD = 0.59$, $Min = 1.00$, $Max = 3.75$) and narrative constructivist ones ($M = 3.51$, $SD = 0.38$, $Min = 2.5$, $Max = 4.00$). FIGURE 3 displays the percentages of agreements and disagreements. In total, 79 participants strongly disagreed, 58 moderately disagreed while only 27 moderately agreed with positivist beliefs. Sixteen students

strongly disagreed, 37 moderately disagreed while 97 participants moderately agreed and 14 strongly agreed with skeptical assumptions. In contrast, none of the participants disagreed with narrative constructivist beliefs while 27 moderately agreed and 137 strongly agreed with such beliefs. The results indicate that all participants tended to agree with the narrative constructivist perspective. Most of them also tended to agree with the skeptical view while only few tended to agree with positivist beliefs. The results also suggest that most participants tended to agree with more than one perspective, as illustrated by the overlapping spider shard (FIGURE 3). However, *CFA* ($n = 175$, $CFI = 1.00$, $TLI = 1.02$, $RMSEA$ (CI 90% [.00, .04]) = .00, $SRMR = .05$) indicates only a small yet negative correlation between the positivist and narrative constructivist position ($r = -.29$, $p < .05$). Hence, no systematic picture for agreements or disagreements on all positions exists across participants. Nevertheless, this says nothing about the structure of individual beliefs.

FIGURE 3: Percentage distribution and overlapping of participants' agreements on epistemological beliefs ($n = 164$)



Note: Mod. = moderate; agr. = agreement; disgr. = disagreement.

Narrative competence and epistemological beliefs

To answer Q3 and Q4, SR-models were analyzed (see TABLE 3). The coefficients of the first model indicate that narrative constructivist epistemological beliefs are a significant and positive, yet minor predictor of participants' narrative competence in terms of both De-Construction and Re-Construction.

The results for the second model underscore the finding for the first model for De-Construction while they show a negative, yet small effect of positivist beliefs on Re-Construction. The results also illustrate that situational interest is a positive, yet minor predictor of Re-Construction. Its effect size is larger than that of positivist beliefs.

TABLE 3: Effects of epistemological beliefs and further aspects on Re-Construction and De-Construction

Model	1		2		3	
Variables	De-Co	Re-Co	De-Co	Re-Co	De-Co	Re-Co
Positivism	-.17	-.14	-.17	-.26*	-.10	-.19†
Skepticism	.01	-.04	.02	-.03	.02	.02
Narrative constructivism	.26*	.21†	.26*	.10	.13	-.01
Situational interest			.01	.43***	.04	.53***
Situational self-efficacy			.26†	-.07	.20	-.19
Age					-.29***	-.04
Sex (male)					-.19*	-.00
Parents' SES					.09	.16†
No. of history lessons at school					.19†	.12†
No. of university history courses					.09	.15**
Secondary school level (lower)					-.07	-.22**
Writing topic (Emigration to Brazil)					.10	.29***
Model fit indices						
R ²	0.12	0.09	0.19	0.24	0.27	0.46
CFI	1.00		0.97		0.95	
TLI	1.00		0.97		0.94	
RMSEA (CI 90%)	.00 (.00, .04)		.02 (.00, .04)		.03 (.00, .04)	
SRMR	.06		.06		.07	

Notes: De-Co = De-Construction; Re-Co = Re-Construction; R² = explained variance; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; CI = Confidence Intervall; SRMR = Standardized Root Mean Square Residual; † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

The analysis of the third model found only small, yet negative effects of positivist beliefs on Re-Construction while no effects were found for epistemological beliefs on De-Construction. Once more, situational interest is a positive, yet moderate predictor of Re-Construction. Its size far exceeds the effect of positivist beliefs. The coefficients for additional covariates show that participants' age affects De-Construction negatively, yet only marginally. De-Construction is also positively, yet only slightly affected by the number of history classes attended at school. It also predicts Re-Construction positively, yet marginally. Re-Construction is also positively, yet marginally predicted by the number of history courses attended at university and by the writing topic (Emigration to Brazil). The lower secondary school teacher training program predicts Re-Construction negatively, yet only marginally. The effect sizes of the last model indicate the largest

effect for situational interest, followed by students' age, writing topic, lower secondary school teacher training, positivist epistemological beliefs, and other aspects (parents' SES, number of school history classes, number of university history courses).

Overall, the estimations suggest that prospective history teachers' epistemological beliefs predict their narrative competence. However, after adjusting for situational interest and further covariates only positivist beliefs affect Re-Construction in a small, yet negative manner. Most importantly, participants' situational interest is a stronger predictor than epistemological beliefs. Other contextual aspects are also more influential.

Discussion

To investigate prospective history teachers' narrative competence, their epistemological beliefs, and the connection between both aspects, we asked German Swiss student teachers to answer material-based writing tasks and several questionnaires (e.g. about epistemological beliefs). We first analyzed participants' performance in de-constructing (i.e. analyzing) historical media (sources, accounts) and in re-constructing (i.e. synthesizing) history as part of their narrative competence. Comparing the ratings of 175 participant texts indicated that participants were stronger at re-constructing than at de-constructing history. The result for De-Construction confirms qualitative research on teacher candidates' sourcing (analysis of sources and accounts) from Anglo-Saxon (e.g. Seixas, 1998; VanSledright & Afflerbach, 2000; Yeager & Davis, 1996) and German-speaking contexts (e.g. Borries, 2007; Waldis, Marti, et al., 2015). The finding for Re-Construction is surprising because prior results from both contexts indicate that prospective history teachers struggle with writing activities (Bohan & Davis, 1998; Borries, 2007). The reason might be that we applied argumentative tasks. Prior studies have shown that such tasks more strongly impact students' historical thinking than others (Monte-Sano & De La Paz, 2012; Voss & Wiley, 1997; Waldis, 2016). Accordingly, our result is probably explained by the different writing tasks that were used in the previous studies. Nevertheless, it seems problematic that our study participants were not good at de-constructing history. If these results are confirmed in the future, this would suggest that trainee teachers candidates struggle to attain the goals of history education after taking their finals (e.g. Körber & Meyer-Hamme, 2015; VanSledright, 2011). Future studies should therefore investigate how teacher training might best support prospective history teachers' narrative competence.

Secondly, we inquired into participants' epistemological beliefs. We found that they tend to reject positivist beliefs (e.g. objective picture of the past) while moderately agreeing with skeptical beliefs (e.g. matter of understanding) and strongly agreeing with narrative constructivist ones (e.g. matter of plausibility). Results indicated that participants tend to hold more than one of these views. However, our correlation analysis revealed no systematic pattern for all positions. This is in line with prior work from different countries (Miguel-Revilla et al., 2020; Namamba & Rao, 2016; Nitsche, 2017; Voet & De Wever, 2016). For example, findings for prospective (VanSledright & Reddy, 2014) and experienced history teachers (Maggioni et al., 2004) indicate that they tend to hold more than one epistemic stance. Moreover, both groups of teachers tended to "wobble" between subjectivist and criterialist beliefs during professional development or while attending a university course in history education. This might be explained by Gottlieb and Wineburg's (2012) finding that historians attempt to coordinate their religious and epistemological beliefs when analyzing religious and non-religious sources. Thus, working with more than one assumption might help (prospective) history teachers to coordinate their more personal (e.g. about religion) and epistemological beliefs with particular contents of historical media. This would be congruent with present discussions in educational psychology on the situated nature of epistemological beliefs (see Hofer, 2016). Thus, future studies in history should investigate participants' epistemological beliefs by asking them to answer questionnaires that are related to specific historical content or to tasks that require historical thinking (e.g. Barzilai & Weinstock, 2015).

In seeking answers to our other questions, we also found evidence for the situated nature of epistemological beliefs. Q3 asked whether participants' epistemological beliefs affect their

narrative competence in terms of both De-Construction and Re-Construction. Without adjusting for covariates, we found small, yet positive effects of narrative constructivist beliefs on De-Construction and Re-Construction. We replicated this for De-Construction after adjusting for participants' situational interest and self-efficacy while finding small, yet negative effects of positivist beliefs on Re-Construction. After adjusting for additional characteristics (e.g. teacher training program), only positivist beliefs predicted Re-Construction in a small, yet negative manner.

On the one hand, this seems consistent with prior studies on school students that have found positive correlations between criterialist beliefs and certain aspects (e.g. causal reasoning, argumentative writing) of historical thinking (Mierwald, 2020; Stoel, van Drie, et al., 2017). On the other hand, the effects of epistemological beliefs are quite unsystematic. Three reasons might explain this. First, for statistical reasons, we had to exclude narrative constructivist items that stressed the need for narrating history (see *Appendix D, E*). The included items emphasized, for example, that historical perspectives must be compared. This might suggest that the content of the items was not fully coherent with the indicators we applied to assess narrative competence. Second, a dimensional view (e.g. on the sources or structure of historical knowledge) might be more appropriate for evaluating epistemological beliefs in action. For example, Wiley et al. (2020) found that US college students' epistemological beliefs about the simplicity and certainty of historical explanations (e.g. historical explanation as mono-causal) correlate marginally, yet negatively with the quality of historical explanations in participants' essays. This indicated that the assessment of epistemological beliefs should address particular situations required in history assignments. Future studies therefore should connect research perspectives on epistemological beliefs in terms of positions and dimensions (see Table 1) to a situational approach involving, among others, historical writing tasks. Finally, other aspects might simply be more influential than epistemological beliefs. Our results for Q4 point in this direction.

We investigated whether participants' epistemological beliefs are most influential compared to covariates (e.g. situational interest). Our results indicate that participants' situational interest is more effective than their epistemological beliefs. On the one hand, this seems surprising because the few existing results from science education suggest that both aspects might influence students' reasoning abilities in similar ways (e.g. Mason & Boscolo, 2004). One explanation is provided by prior work in social science education based on multiple sources regarding controversial topics (e.g. nuclear power), which shows that situational interest potentially mediates the effects of epistemological beliefs on learner achievement (e.g. Brandmo & Bråten, 2018; Mellat & Lavasani, 2011). Our results provide little evidence for this because they indicate a positive, yet very small correlation between narrative constructivist beliefs and situational interest (see *Appendix F*). Saying that, complex mediation analysis might provide evidence in this respect. However, our sample size was too small to perform such analysis, which therefore remains an open task for future research.

On the other hand, the strong impact of situational interest seems in line with the theories on historical cognition and empirical research, which argue for the situated nature of historical thinking (e.g. Mierwald, 2020; Stoel, van Drie, et al., 2017; van Boxtel & van Drie, 2018; VanSledright, 2011). The estimation of the last model also supported this argumentation. As has been shown for school students (Waldis, Hodel, et al., 2015), writing tasks affected our participants' narrative competence in terms of Re-Construction. Other influences include aspects of the teacher training program (lower secondary school teacher training, number of history courses attended at university), as well as participants' school experiences (number of history lessons attended at school) and sociocultural background (parents' socioeconomic status). In addition, older participants scored fewer points on De-Construction. Once more, this might be explained by the (school) context: German-speaking research on history teaching in the past has indicated that school students used to be asked to summarize rather than interpret sources (e.g. Borries, 2016).

Overall, our results show that both their epistemological beliefs and situational aspects (e.g. interest, topic, history classes attended at school and university) affect prospective German Swiss

history teachers' narrative competence. This suggests that a situational approach to assessing epistemological beliefs in action might be useful to understand the relation between epistemological beliefs and historical thinking.

Two methodological limitations need to be mentioned. First, we used consent coding to evaluate participant texts because interrater reliability was not sufficient for all categories. Second, to deal with missing data in *CFA* and *SR-models*, we applied the *FIML-approach* within *MLR-estimation*. *MLR-estimation* tends to underestimate factorial coefficients when using ordinal scaled variables as we did (e.g. epistemological beliefs). However, the method provides quite reasonable regression indices (Li, 2016) and seems to be the most efficient one with small sample sizes (Schwab & Helm, 2015). Therefore, and because our main findings are in line with the aforementioned theories and empirical studies, we believe that our results are valid.

Conclusion

Besides these limitations, our study adds first statistical evidence to the existing research on the relation between the epistemological beliefs and narrative competence based on a sample of prospective history teachers (Maggioni, 2010; Mierwald, 2020; Stoel, van Drie, et al., 2017; Wiley et al., 2020). One important finding is that participants' situational interest and contextual aspects (e.g. number of history classes attended at school and university) predicts their narrative competence partly more strongly than their epistemological beliefs. This might imply that both narrative competence and beliefs are situated. Future studies therefore should carefully develop methods for assessing epistemological beliefs that cohere more strongly with methods for assessing various aspects of historical thinking (e.g. historical writing tasks, and the analytical rubrics used to evaluate participants' texts) and that are related to specific historical content.

Further, we believe our results have implications for practice. History education aims to foster school students' historical thinking, for example, in terms of narrative competence. Hence, we have argued for conceptualizing narrative competence as part of history teachers' CK and professional competence because after graduation trainee teachers are tasked with developing narrative competence in school students. Although our participants were about to graduate in history didactics, our results confirm previous English- and German-speaking findings that prospective history teachers struggle to de-construct and -- to a somewhat lesser extent -- re-construct history. We therefore maintain that future history teacher training in Switzerland and beyond should build student teachers' narrative competence much more strongly than it does currently.

Our study also suggests how this goal might be achieved. Given that epistemological beliefs and previous history education (at school and university) impact narrative competence, history teacher training should make epistemological beliefs more explicit during history and history education courses. One way of achieving this would be to adopt Stoel et al.'s (2017) explicit teaching strategy. Their approach promotes the ability of school students to perform epistemological shifts by setting assignments that require them to make their implicit epistemological thoughts explicit and to reflect epistemologically on why they used particular practices when asked to write historical explanations. Furthermore, the impact of situational interests and writing topics suggests that asking student teachers about their topical interests before devising a history teacher training program might be a fruitful way of supporting their narrative competence. Finally, and in light of the results of historical writing interventions at schools (Nokes & De La Paz, 2018), historians and educators teaching future history teachers should endeavor even more strongly to show and train their students how to apply analytical and synthesizing activities. Otherwise, what is perhaps the most important goal of history education will be missed: fostering people's ability to use the narrative mode of knowing.

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About the Authors

Martin Nitsche, Dr. phil., is a Senior Researcher at the Centre for Civic Education and History Education in Aarau at the School of Education, University of Applied Sciences Northwestern Switzerland. During summer semester 2022 he holds an interim professorship for history didactics at University of Cologne. His main research interests include history teachers' professionalization with a focus on their (e.g. epistemological) beliefs, assessments of historical thinking and learning activities, and analyses as well as preparations of teaching material. Dr. Nitsche has received a grant from Swiss National Science Foundation (SNF) for his project "Research of Learning Processes in History (RicH)" (2020-2023). He is also co-speaker of the working group "Empirical History Education Research" of the "German Society for History Didactics".

Email: martin.nitsche@fhnw.ch ORCID: 0000-0003-4261-5583

Monika Waldis, PhD, is Professor and head of the Centre for Civic Education and History Didactics at the University of Applied Sciences Northwestern Switzerland's Centre for Democracy in Aarau. She conducts research on teaching and learning processes in history and civic education including video-based research and competence measurement. Furthermore, she researches and works on the professional development of teachers and participates in numerous committees to strengthen teacher education in the field of social sciences, history didactics and civic education in Switzerland. At the Institute of Educational Sciences Basel (University of Basel/University of teacher education FHNW), she heads the Master's program History and Civic Education. Monika Waldis published a series of studies on the subject didactic competence of history teachers and on the narrative competence of students including a writing intervention at upper secondary level (Waldis, Nitsche & Gollin 2020, Zeitschrift für Geschichtsdidaktik). She is the author of numerous handbook articles in the field of civic education and history didactics such as the *Handbook of Teacher Education* (Cramer, König, Rothland, Blömeke 2020, Verlag Julius Klinkhardt) or the *Handbook of School Research* (Hascher, Idel, Helsper 2022, Springer) and editor of the peer-reviewed conference proceedings "geschichtsdidaktik empirisch", which bundle current research work in the field of German-language history didactics.

Email: monika.waldis@fhnw.ch

Appendix A: Argumentative writing tasks

Topic	Cuba Crisis in the Cold War	Swiss emigration to Brazil in the 19th century
Prompt	“Use the historical account below and your prior knowledge to contextualize the sources. On this basis, develop a critical and reasonable position on the claim presented below. Please ensure you write a coherent text. You can take about 45 minutes for your answer.”	
Claim	“The two text sources use the Cuba Crisis as an example of how two superpowers deal with a third country. Similar constellations can also be found today.”	“The two text sources show aspects of the phenomenon of migration that can also be found today.”
Account	Extract from Holstein, K.-H. et al. (2008). <i>Schweizer Geschichtsbuch, Band 4: Zeitgeschichte seit 1945</i> [Swiss history textbook, volume 4: Contemporary history since 1945]. Berlin: Cornelsen.	Extract from Ziegler, B. (1985). <i>Schweizer statt Sklaven. Schweizerische Auswanderer in den Kaffee-Plantagen von Sao Paulo (1852-1866)</i> [Swiss instead of slaves. Swiss emigrants in the coffee plantations of Sao Paulo (1852-1866)]. Stuttgart: Steiner.
First source	Extract from the letter of Nikita Khrushchev to John F. Kennedy, October 27, 1962. Retrieved May 15, 2015, from: http://www.peterhall.de/cuba62/docs/doc16.html .	Extract from unknown author (1883). Bericht, die Kolonisation in Brasilien betreffend [Report concerning the colonization in Brazil]. <i>Der Colonist</i> [The Colonist], 30. Retrieved May 15, 2015, from: http://kbaargau.visual-library.de/periodical/pageview/9590 .
Second source	Extract from the letter of Fidel Castro to Nikita Khrushchev, October, 31, 1962. Retrieved May 15, 2015, from: http://www.peterhall.de/cuba62/docs/doc23.html .	Extract from Davatz, T. (1858). <i>Die Behandlung der Kolonisten in der Provinz St. Paulo in Brasilien und deren Erhebung gegen ihre Bedrucker</i> [The treatment of the colonists in the Province of St. Paulo in Brazil and their revolt against their oppressors]. Chur: Hitz.

Appendix B: Example of text rating based on the task about “Swiss emigration to Brazil in the 19th century”

Argumentation of participant AJS17	Rubrics (rating points)
“The sources are situated in the 19th century when many people in Europe were in a bad way. One reason for emigration was poverty at home. Hope for a better life was obtained through emigration, <u>where</u> — in the case of Brazil — land was apparently obtained directly for cultivation. <u>The sources were written by two different authors. The first one promotes emigration, so to speak, and lists some advantages of it (the source is an emigration magazine). The second source from Mr. Davatz, on the other hand, is written by an affected person who has experienced what it means to live there. While the first source talks about an improvement in living conditions, the second source compares life in Brazil with slavery. Thus, two completely different views are presented. In the second text, the author feels obliged to point out the living situation, where the colonists seem to be completely at the mercy of the “Vergueiro”-society.</u> Thesis: The reason for emigration in the case of Switzerland in the 19th century was mainly material and financial poverty. There are certainly people who flee because of this also in the present (possibly economic refugees). <u>However</u>, today we also find refugees whose emigration is based on war or conflicts in the home country, or persecution and religious views. One thinks <u>here</u> probably of the momentary situation in the Near East. The second source speaks about the disappointed hope of the emigrants. One could call <u>this</u> probably a phenomenon of the migration that humans in the emigration country work and hope for future. People also want to earn money to support their family in the home country. <u>However</u>, often they are disappointed or must realize that <u>this</u> is not as easy as imagined. (e.g. one does not find a job or is not allowed to work). A third aspect is addressed with the company “Vegueiro”. If <u>such</u> organization is compared with traffickers of today, the similarity is found that there are again people who profit from the migration and the misery of other people. With the emigrant magazine is advertised. Possibly today’s media are also — probably unconsciously — advertising platforms for people from other countries, who see that other countries are obviously better off and have more wealth and prosperity. This is then probably a pull factor. The thesis can probably be confirmed.”	<i>Visible media critique</i> (2 points) <i>Visible use of historical media</i> (2 points) Visible transparency of text construction: perspectivity, partiality (2 points) Controversial structure of argumentation (2 points) <i>Functional connects (2 points)</i> Visible text outline (2 points based on the whole text) Justified historical meaning (2 points based on the whole argumentation)

Note: Translated from German; bold, italic, and underlined words etc. for single rubrics.

Appendix C: Rubrics for assessing narrative competence

Points	0	1	2
De-Construction			
<i>Use of historical media</i> found in single phrases or partial sentences.	<i>Not visible</i> No implicit or explicit reference to the provided media.	<i>Implicit</i> References to historical statements are provided (e.g. "the article").	<i>Visible</i> One or more references to explicit evidence were used (e.g. "the article from 'The Colonist'").
<i>Media critique</i> found in single phrases or (partial) sentences.	<i>Not visible</i> No consideration of media reliability.	<i>Partly</i> Statements on the reliability or perspective for one source or account are plausible.	<i>Visible</i> Statements on reliability or perspective for more than one source or account are plausible.
Re-Construction			
<i>Structure of argumentation</i> to be evaluated based on the whole text.	<i>Unstructured</i> Existing statements or arguments are not connected.	<i>Without opposing ideas</i> The text consists of: <i>arguments or counterarguments</i> that refer to a <i>claim</i> .	<i>Controversially</i> The text consists of: <i>pro arguments and counterarguments</i> that refer to a <i>claim</i> .
<i>Text outline</i> to be evaluated based on the whole text.	<i>Unstructured</i> No <i>introduction</i> and <i>final part</i> are visible.	<i>Partly</i> An <i>introduction</i> or a <i>final part</i> are visible.	<i>Visible</i> An <i>introduction</i> and a <i>final part</i> are visible.
<i>Connects</i> found in single phrases between partial sentences.	<i>Non functional</i> Connectors (e.g. "led to," "it follows") barely interlink the different parts of the text.	<i>Partly</i> Connectors interlink parts of the text in less than half of the cases.	<i>Functional</i> Connectors interlink parts of the text in more than half of the cases.
Orientation			
<i>Justification of historical meaning</i> found in partial sentences or multiple sentences.	<i>Not visible</i> Statements on the meaning of past aspects for the present or future are not visible.	<i>Not justified</i> At least one statement on the meaning of past aspects exists. However, it is not justified with evidence or arguments.	<i>Justified</i> At least one statement on the meaning of past aspects. It is justified with evidence or arguments.
<i>Transparency of text construction</i> found in single phrases or partial sentences.	<i>Not visible</i> It is not mentioned that the text is retrospective (e.g. "present"), constructed (e.g. "from my point of view"), or selective (e.g. "among others," "for example")	<i>Partly</i> One aspect is mentioned (e.g. authored construction, partiality, retrospectivity).	<i>Visible</i> More than one aspect is mentioned (e.g. authored construction, partiality, retrospectivity).

Appendix D: Epistemological Beliefs Questionnaire in History (EBQH)

	Please tick as appropriate (one box only).	Not true	Rather not true	Rather true	True
1.	History says something about the past and the time in which it is told.	☐	☐	☐	☐
2.	History and the past are the same.	☐	☐	☐	☐
3.	History says nothing about the past, only something about the time in which it is told.	☐	☐	☐	☐
4.	Historical statements are taken from a source as it best meets the individual's needs.	☐	☐	☐	☐
5.	For historical research, it is important to compare the perspectives of sources and to become aware of one's own point of view.	☐	☐	☐	☐
6.	Historical statements are accessed directly via sources.	☐	☐	☐	☐
7.	Everyone understands the statements made by sources and accounts as it suits them.	☐	☐	☐	☐
8.	Comparing the perspective of the sources used and clarifying one's own point of view are key to historical research.	☐	☐	☐	☐
9.	People individually justify their view of the past.	☐	☐	☐	☐
10.	History is a reasonable reconstruction of past events based on available sources and accounts.	☐	☐	☐	☐
11.	History is an individually justified interpretation of the past.	☐	☐	☐	☐
12.	History clearly explains how events happened.	☐	☐	☐	☐
13.	History pictures the past as it really was.	☐	☐	☐	☐
14.	History consists mainly of fictional elements.	☐	☐	☐	☐
15.	History is a historical narration about excerpts from the past based on contemporary questions.	☐	☐	☐	☐
16.	No method exists for guaranteeing the certainty of historical knowledge.	☐	☐	☐	☐
17.	Even if sources and views contradict one another, history can still be written.	☐	☐	☐	☐
18.	History is generally neutral and objective.	☐	☐	☐	☐
19.	History can be written although sources and views are contradictory.	☐	☐	☐	☐
20.	The main purpose of history is to present the narrators' viewpoints.	☐	☐	☐	☐
21.	The main purpose of history is to show how things really were.	☐	☐	☐	☐
22.	The main purpose of history is to provide an orientation from the past for individuals and societies.	☐	☐	☐	☐

Note: Translation from German (Nitsche, 2019, p. 321-322).

Appendix E: Scales and variables (manifest values, $n = 175$)

<i>Scales & Variables (Item no. in the questionnaires)</i>	<i>Missing</i>	<i>M</i>	<i>SD</i>
<i>De-Construction</i>	0	0.83	(0.61)
Use of media	0	1.08	(0.63)
Media critique	0	0.59	(0.76)
<i>Re-Construction</i>	0	1.05	(0.49)
Text outline	0	1.06	(0.73)
Connects	0	1.32	(0.69)
Justification of historical meaning	0	0.99	(0.45)
Structure of argumentation	0	0.84	(0.79)
Transparency of construction	0	1.03	(0.73)
<i>Positivism</i>	6.29%	1.67	(0.48)
Picture of the past (13)	6.29%	1.64	(0.77)
Explain causes (12)	6.29%	1.76	(0.73)
Show how things really were (21)	7.43%	2.33	(0.84)
Neutral and objective (18)	6.29%	1.81	(0.8)
<i>Skepticism</i>	6.29%	2.37	(0.59)
Individual understanding (7)	8.00%	2.2	(0.85)
Individual use (4)	7.43%	2.3	(0.84)
Individual interpretation (11)	8.00%	2.18	(0.79)
Individual justification (9)	6.86%	2.83	(0.68)
<i>Narrative constructivism</i>	6.29%	3.51	(0.38)
History despite contradictory perspectives (17)	8.00%	3.43	(0.55)
Integration of contradictory perspectives (19)	6.29%	3.34	(0.56)
Comparison of perspectives is essential (8)	6.86%	3.73	(0.5)
Reconstruction through interpretation (10)	7.43%	3.52	(0.57)
<i>Situational interest</i>	6.29%	3.18	(0.59)
Interesting topic (2)	7.43%	3.24	(0.67)
Enjoyment of task solving (1)	6.29%	2.76	(0.8)
Important topic (3)	8.00%	3.55	(0.64)
<i>Situational self-efficacy</i>	6.29%	2.48	(0.70)
Writing was easy (5)	6.29%	2.41	(0.86)
Succeeded in extracting important things (8)	8.57%	2.54	(0.71)
Age	5.71%	27.05	(6.68)
Sex (female)	5.71%	55.20%	
Number of books	5.71%	4.19	(1.27)
Father's level of education	10.86%	6.12	(2.27)
Mother's level of education	9.14%	5.36	(2.04)
Number of history lessons at school per week	12.57%	2.24	(0.61)
Number of history courses attended at university	7.43%	5.98	(7.66)
Secondary school level (lower)	0	74.86%	
Writing topic (Emigration to Brazil)	0	53.71%	

Appendix F: Correlations between De-Construction, Re-Construction, epistemological beliefs, situational interest, and self-efficacy (n = 164–175)

	1	2	3	4	5	6	7
(1) De-Construction	1						
(2) Re-Construction	.26***	1					
(3) Positivism	-.17*	-.13	1				
(4) Skepticism	-.03	-.06	.04	1			
(5) Narr. constructivism	.21**	.23**	-.26**	-.09	1		
(6) Sit. interest	.08	.30***	.09	-.04	.19*	1	
(7) Sit. self-efficacy	.19*	.13	-.06	-.04	.06	.34***	1

Note: * $p < .05$; ** $p < .01$; *** $p < .001$; Narr. = narrative; Sit. = situational.

Endnotes

¹ The sequence of courses at German Swiss universities with teacher training is rarely mandatory. Therefore, the number of semesters and courses varies.