

ORIGINAL RESEARCH ARTICLE

Effects of a teacher training programme on historical awareness skills, controversial issues and gender in secondary education

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ABSTRACT

This research analyses the impact of a teaching intervention aimed at the development of historical awareness skills in future secondary school social science teachers ($n = 19$), and its relationship with the curricular inclusion of controversial issues, gender and its diversity in history education. From a quasi-experimental design, the Epistemology, Methodology and Gender in taught history (EMG) scale was adapted as a data collection instrument. The main results obtained report a statistically significant impact of the intervention on the curricular need for didactic treatment of social problems and controversial issues, and for addressing education for participatory democracy in the social science curriculum; making visible individuals, social groups/collectives and plural identities (including gender); recognizing the relative nature of social-historical knowledge; and redirecting historical knowledge towards purposes oriented towards social transformation and education for the future. Likewise, after the programme, the representations of future teachers tend to weaken the perception of historical knowledge as an interpretative reconstruction of the past, its limited impact on the historicity of the present and its absence in the configuration of desirable futures, and to strengthen the need to understand the historical method in the teaching of social sciences.

Keywords: historical awareness skills; curricular inclusion of controversial issues; gender diversity, teacher training; secondary education

1. Introduction

1.1. Historical awareness in social science teaching

Historical awareness is an essential third-order concept in the didactics of social sciences^[1], which makes it possible to operationalize historical learning in order to provide curricular content with a temporal (past-present-future) and moral meaning^[2-5]. Edling et al.^[6] show, in their systematic review, that historical awareness is related to the moral dimension in history teaching. Miguel-Revilla and Sánchez-Agusti^[7], for their part, describe the didactic potential of current and controversial topics for the acquisition of historical awareness skills. Furthermore, the development of thinking skills and historical awareness has been linked to competence learning^[8-10].

Historical awareness has been defined as an interpretative filter^[11] or as an orienting guide in history^[12], enabling students to generate critical skills, develop civic and citizenship competences to function democratically,

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and understand historical culture and the uses of history^[13,14]. In this way, this concept seeks to promote the active participation of citizens in the construction of the present and reflection on desirable futures, guiding students in learning about history through the “space of experience” and the “horizon of expectation” proposed by Koselleck^[15].

Epistemic beliefs about the purposes of history teaching are not homogeneous. In fact, Sakki and Pirttilä-Backman^[16] conclude that teachers’ levels of historical awareness in ten European countries are disparate. These differences are identified between modern, democratic European countries in the Western North, traditional Mediterranean European countries and ultra-nationalist post-communist European countries. For the Canadian context, Lévesque and Zanazanian^[17] also revealed the interest and need of future teachers to develop their historical awareness, and the existence of differential levels by geographical region. These results partially coincide with the levels of awareness identified in the case studies by Suárez et al.^[18] for the Colombian context, and by Ortega-Sánchez et al.^[19], and Ortega-Sánchez and Pagès^[20] for the Spanish context. These investigations reveal few differences between the usually exemplary levels of historical consciousness and are in agreement with the conclusions of Escribano and Pagès^[21], who argue for imprecision in their conceptualisation and operationalisation.

1.2. The teaching of controversial issues in history education

Teacher education should provide the necessary theoretical and practical tools to address the pressing social issues of our contemporary world^[22–24], usually arising spontaneously in the social sciences classroom^[25]. From a holistic point of view and with an integrated and transdisciplinary perspective, Ortega-Sánchez^[26,27] argues for the need to include social problems, controversial issues and socially live issues in the curriculum and in educational practice in social sciences. Consequently, the didactic treatment of controversial issues and the establishment of strategies to promote historical thinking skills in students should necessarily be oriented towards the analysis of the public uses of history, through the development of historical awareness, and involved in the construction of a critical and democratic historical culture.

Despite the didactic and educational benefits of the curricular inclusion of controversial topics in the development of students’ social thinking skills, there is little evidence of its treatment in the classroom^[28]. This reality is confirmed in studies such as that of López and Felices de la Fuente^[29], in which its influence on the development of social competences is demonstrated, together with the existence of significant training deficiencies for future teachers to handle this type of content. Likewise, the teaching profiles identified in the research by Ortega-Sánchez and Pagès^[20] (critical, evasive and technical) show their obstacles to teaching controversial subjects and the absence of specific initial training for making curricular decisions in highly standardized learning contexts. However, the majority tendency of teachers to avoid controversial topics in history teaching sometimes contradicts their teaching practices, a circumstance demonstrated by Jofré et al.^[30] in the Chilean context.

In this regard, Giroux^[31] warns of the importance of controversial issues and the challenge for teachers to implement them in the classroom in the face of social radicalization and polarization. Social and historical problems, present in all societies, can be characterized locally and globally from political, economic, social and cultural dimensions. From this perspective, ignoring conflict and not facing these problems undermines the sense of democracy^[32,33]. Another pressing problem is the loss of teachers’ autonomy to work on controversial issues^[34]. In this context, research by Martínez et al.^[35] argues that only 4% of future teachers would carry out the training action to address relevant social problems. To this reality should be added the lack of treatment of this type of content in university training, which is more focused on disciplinary and professional problems^[36].

1.3. Gender and its diversity as categories of social analysis in the teaching of history

From the scientific field of social science education, gender constitutes an essential category of analysis in education for global, democratic and egalitarian citizenship, and in education for social justice and the development of historical thinking skills^[37,38]. In this sense, Ortega-Sánchez et al.^[39] and Ortega-Sánchez and Pagès^[40] highlight the need to incorporate gender diversity in the teaching of history and social sciences in order to generate critical discourses on the construction of plural identities. Likewise, university students perceive and show interest in the incorporation of the gender perspective in teaching-learning processes, although they perceive indifference and institutional neutrality^[41].

According to Heras-Sevilla et al.^[42], it is still necessary to overcome heterosexist attitudes and gender stereotypes of teachers, trying to reverse the normative sex-gender system through the recognition of non-neutrality in the school institution. Along these lines, the systematic review on sexuality and gender diversity in education by López-Orozco et al.^[43] suggests the need to continue with the institutional and curricular inclusion of various groups from the LGTBIQ+ community.

In this context, the present research seeks to analyze the impact of a teaching intervention aimed at the development of historical awareness skills in future secondary school social science teachers, and its relationship with the curricular inclusion of controversial issues, gender and its diversity in history education.

2. Method

2.1. Participants

The participant sample consisted of a total of 14 men (73.7%) and 5 women (26.3%), enrolled in the Master's Degree in teacher training for secondary and baccalaureate education at a university in the north of Spain. Participants were selected by means of non-probabilistic convenience and purposive sampling, according to the possibilities of access to the field of study and according to their degree of suitability to the research objectives, respectively.

2.2. Instrument

The Epistemology, methodology and gender in taught history (EMG) instrument, validated by Ortega-Sánchez and Heras-Sevilla^[44], was adapted. The *EMG* scale is constructed from 15 items, 8 of which are positively formulated. In order to control for social desirability and acquiescence or tendency to express systematic agreement with the statement of the item, the scale includes 7 inverse items (1, 2, 3, 4, 5, 8 and 11). Despite the questioning of this practice^[45], it has been considered adequate to avoid potential response biases.

In order to estimate the accuracy, stability and internal consistency, and thus the instrumental ability to measure the same construct, Cronbach's alpha coefficient was calculated. Taking into account the opposition of the direction of the attributes between the two sets of variables of the *EMG* scale, the reverse items were recoded and adjusted prior to this calculation. The analysis returned an adequate level ($\alpha = 0.89$) for the set of variables that make up the scale.

Furthermore, the kaiser-meyer-olkin's (KMO) measure of sampling adequacy index (0.826) and Bartlett's test of sphericity ($\chi^2_{(185)} = 247.121, p \leq 0.001$) were calculated, the results of which reported the existence of matrix adequacy to be factored and optimal model fit, respectively. Next, evidence of construct validity was obtained using exploratory factor analysis (EFA). In this analysis, principal component analysis with varimax rotation and loadings above 0.40 was used as the extraction method.

The analysis returned a factorial solution composed of 6 factors: F1: Social problems, controversial issues, and visibility of people and identities in the history taught; F2: Methodology and construction of the historical

method; F3: Aims of historical knowledge; F4–F5: Methodology and objectives of the History taught; F6: Gender as a category of socio-historical analysis, approximating the dimensions defined in the original construction of the scale, which help to explain its coherence and latent structure. These factors explain 72.27% of the total variance, a level considered satisfactory. Indeed, the factor loadings matrix shows that the 15 variables saturate in one of the 6 factors, 6 of them in more than one factor (items 6, 9, 11, 3, 1 and 4) because they are linked to the measurement of the constructs with which they are associated (**Table 1**).

Table 1. Matrix of rotated factors. Adapted EMG scale.

		Factors					
		1	2	3	4	5	6
15	The didactic treatment of social problems favours the development of social and historical thinking skills in students.	0.838	-	-	-	-	-
10	Education for participatory democracy should be integrated into the history curriculum.	0.718	-	-	-	-	-
7	One of the responsibilities of history is to make visible all identities, social and historical actors.	0.679	-	-	-	-	-
6	History is not an objective and contrasted narrative set of dates, facts, events and social actors.	-0.588	-	-	-	0.432	-
9	Controversial issues should be dealt with in history classes.	-0.469	-	-	-	-0.410	0.460
8	History is the interpretative reconstruction of past events, based on sometimes-contradictory evidence.	-	-0.802	-	-	-	-
2	Knowledge of the historical method is only essential for historians.	-	0.656	-	-	-	-
11	Any narrative or historical account is useful to approach the past.	-	0.570	-	-0.534	-	-
13	Knowledge of history is essential for social transformation.	-	-	0.728	-	-	-
14	Knowledge of history is essential in education for the future.	-	-	0.699	-	-	-
3	The history taught starts from the reasonable narrative reconstruction of past events, from comparison of the available evidence.	-	-	0.503	-0.633	-	-
5	History teaching should focus on past events and/or social problems.	-	-	-	0.457	-	-
1	The historical account taught is not the product of the critical application of a systematic process of research.	0.437	-	0.446	-	0.612	-
4	It is absurd for students to understand the historical method.	-	0.549	-	0.408	0.600	-
12	The study of gender relations and its diversity represents a valid category for the analysis, teaching and understanding of historical societies.	-	-	-	-0.418	-	-0.706

The evidence of estimated reliability and construct validity leads to the conclusion that the instrument has adequate psychometric properties for use with prospective secondary school teachers^[46].

2.3. Design and procedure

2.3.1. Design

The present research is positioned in quasi-experimental designs without a control group, also called evaluative or intervention studies without random assignment, in which there is an exposure, intervention or treatment and a hypothesis to be tested, but there is no randomization of subjects to the treatment and control groups or, as in this study, there is no control group. This type of design is based on the measurement and comparison of the response, randomized or study variable before and after exposure to the experimental intervention. Single-group before-after designs allow for manipulation of the intervention and thus exposure, but do not include a comparison group, with each subject acting as his or her own control^[47].

In order to reduce the effects of the selected design, this study sought to control the Hawthorne effect or response induced by the knowledge of being the object of study. The control of this effect consisted of implementing the pre-posttests and the teaching intervention within the framework of the programming of a compulsory subject belonging to their training plan, in such a way that it was not perceived as independent and experimental in nature from the natural development of the subject.

Likewise, with the aim of achieving greater internal validity, actions were articulated to control the effect of extraneous variables such as maturity (age and similar educational level), reactive effect (reduction through the temporal separation between the pre-test and post-test, and the absence of incentives), instrumentation (reduction of interference in the results through the early and precise specification of rules for the application of the pre-test-post-test, and the development of the teaching programme). In relation to external validity, the controlled variables consisted of the absence of indications of participating in a different situation (reactive devices), and of interference in the theoretical-methodological design of the general teaching guide for the subject.

2.3.2. Procedure

Within the framework of the compulsory subject teaching innovation and initiation to educational research in the social sciences, included in the syllabus of the Master's Degree in Secondary Education teaching, a training action was designed divided into four theoretical-practical seminars lasting 2.5 h, structured in short theoretical presentations (theoretical pills). The thematic blocks addressed were aimed at identifying the reasons that define the following topics as controversial issues. These reasons were related to the concept of historical consciousness and linked to historical thinking, third order concepts for thinking and teaching history, and the importance of social-historical narratives as shapers and reproducers of the way of understanding and constructing the world. The controversial issues addressed in the theoretical pills correspond to those included in the dimensions defined by Ortega-Sánchez et al.^[19]

Narrative constructions on public health and social responsibility. Pandemics, historical public health problems (20th century) such as AIDS (Acquired Immune Deficiency Syndrome) and other diseases that have marginalized and discriminated against different social groups; the Spanish black legend; the great pandemics of the 20th century; COVID-19; possible global pandemics in the future; social responsibility as an individual and social ethical commitment to transform the world; ecologism, human rights, invisibility of groups throughout history and in history.

Narrative constructions on gender diversities. The gender perspective in scientific research: Gender diversities. Feminism: Gender as a social construct and its historical diversity. Power relations throughout history: The sex-gender system, Coeducation. Gender stereotypes: Invisibility of groups in history.

Narrative constructions on national identities, exclusionary identities, historical memory and migratory crises. Theories of nationalism and the construction of exclusionary identities based on the nation. Fascism, Nazism, eco-fascism and neo-fascism; Pinkwashing; The importance of historical and democratic memory; Wars, its moral learning, the myths of Francoism to exemplify the equidistance in ethical issues in the learning of social sciences; Genocides. The defence of human rights in the face of wars and the consequences they have on populations.

Each thematic block was accompanied by practical group activities (learning monitoring notebook) on the contents worked on. These practical activities, a priority in the teaching programme, were based on science popularization publications on social networks, disseminated as Twitter threads, photos posted on Facebook/Instagram or explanatory videos on TikTok. It also included narrative models that drew on historical

thinking to address controversial issues, with the aim of teaching how to construct narratives through the application of genealogical historical awareness.

The adaptation of the EMG questionnaire was administered before and after the full training programme. This adaptation was aimed at finding out the different social representations of trainee teachers about the epistemological and methodological aims and perspectives of the history taught, with an emphasis on the curricular relevance of including social problems, controversial issues and gender and its diversity in history education. In the first session, the scale was applied pretest and the first measures were collected. Once completed, the specific training to be implemented in the design of the subject syllabus was reported. In the last session, after the training action, this instrument was administered again post-test.

2.4. Data analysis

Descriptive (means and medians) and inferential analyses were performed on the data obtained. Having checked the assumption of factorial normality by means of the Shapiro-Wilk normality test (> 50), student's t-test for related samples was applied to factors F1 ($p = 0.054$), F4 ($p = 0.060$) and F5 ($p = 0.200$) and, if this assumption was not met, the Wilcoxon signed-rank test was applied to factors F2 ($p = 0.003$), F3 ($p < 0.001$) and F6 ($p < 0.001$). Cohen's d and Hedges' g effect sizes were also calculated for each test.

Finally, in order to determine the probability of correctly rejecting the null hypothesis when it is actually false in the population^[48] and thus assess the reliability of the p -values obtained, we calculate statistical power. In this way, we seek to confirm whether the statistical decisions to reject the null hypothesis offer sufficient guarantees of certainty.

3. Results

The descriptive results report increasing levels of satisfaction, following the teaching intervention, in the first and third factors related to the curricular need for didactic treatment of social problems and controversial issues, and for addressing education for participatory democracy in the social studies curriculum; making people, social groups/collectives and plural identities (including gender identities [second content block]) visible; recognizing the relative nature of social-historical knowledge; and redirecting historical knowledge towards aims oriented towards social transformation and education for the future (**Table 2**).

Table 2. Descriptive and pre-post test statistics.

	Measurement 1	Measurement 2				
	M (SD)	M (SD)	t	p	d	$1-\beta$
F1	3.53 (0.25)	4.03 (0.34)	-2.704	0.016	0.68	0.91
F4	3.23 (0.81)	3.07 (0.53)	-0.637	0.533	-	-
F5	2.45 (0.67)	2.44 (0.64)	0.000	1	-	-
	M_e (R)	M_e (R)	Z	p	g	$1-\beta$
F2	3 (2)	2.66 (1.67)	-1.216	0.224	-	-
F3	4.50 (1.50)	4.60 (1.51)	-1.633	0.102	-	-
F6	5 (2)	5 (2)	0.000	1	-	-

The results reveal statistically significant differences in the first factor. In them, the pretest score ($M = 3.53$, $SD = 0.25$) was lower than the score obtained in the second measurement (post-test). Its effect size comprised a medium to large value ($M = 4.03$, $SD = 0.34$) ($t_{(16)} = -2.704$, $p = 0.016$, $d = 0.68$) and the power

of inference ($1-\beta = 0.91$) exceeds the minimum required (80%), so there is a high improbability of committing a type II error if H_0 is rejected.

The rest of the factors experience gradual and slight decreases, after the intervention, in contents linked to the methodological procedures of research, the construction of historical knowledge, and the methodology and objectives of the history taught (factors 2, 4 and 5), or remain at similar values in relation to the perception of the socio-cultural concept of gender as a category of analysis in the teaching of historical societies (factor 6). In this sense, the representations of future teachers tend to weaken the perception of historical knowledge as an interpretative reconstruction of the past, of its scarce impact on the historicity of the present and of its absence in the configuration of desirable futures, and to strengthen the need to approach and understand the historical method in the teaching of social sciences. Consequently, it can be concluded that the acquisition and development of historical awareness skills in the didactic treatment of inclusive, plural, problematic and controversial narratives is consistent with the very nature of social-historical knowledge. However, the differences in the descriptive values obtained in the post-test are not statistically significant with respect to those obtained in the first measurement, prior to the teaching intervention. In these factors, therefore, it cannot be concluded that there is a clear impact of the training action after its completion.

4. Discussion

In line with the findings of the studies by Balbé, et al.^[35], Ortuño-Molina and Alvé^[49] and Ortega-Sánchez et al.^[19], the results obtained provide relevant information on the viability and suitability of the teaching intervention implemented to work on social problems and controversial issues, and to make people and identities visible in teacher training. The impact of the programme informs the development of historical awareness skills, through the didactic treatment of inclusive, plural, problematic and controversial narratives, and the trainee teachers' ability to interpret and relate controversial issues.

Consistent with the results of this research, the introduction of methodological changes and innovative teaching strategies based on the specific treatment of controversial topics for the development of historical memory and awareness^[50] has already reported evidence of effectiveness in increasing the interest of future teachers in the study of history and its influence on the acquisition of social and citizenship skills^[51,52]. Likewise, the evaluation of this type of curricular proposals has returned relevant advances in the identification of problems, the learning of citizenship skills and the development of argumentative skills, among others, in compulsory education students^[53,54].

According to Tribukait^[24], it can be affirmed that curricular content prevails over the teaching of third-order concepts, which allow teachers to interpret, relate and interpret controversial issues. Despite the resistance and reluctance of teachers to work with this type of concepts, the results of this study confirm that its inclusion in the teaching of history allows future teachers to develop civic and citizenship skills^[23,34], acquire historical thinking skills^[10], and foster the critical thinking of a democratic, plural and inclusive citizenship with the capacity to generate and transform socio-historical narratives^[39]. However, trainee teachers do not seem to be explicitly committed to the future temporal dimension inherent in the contents addressed (education for the future).

Similarly, initial reluctance to include invisible groups in the history taught continues to be identified. These results are consistent with the findings of Ortega-Sánchez et al.^[39], who suggest greater attention to the educational reception and treatment of controversial topics in the specific field of gender diversity and affective-sexual identity.

5. Conclusions

Historical awareness as an interpretative filter^[11] or temporal compass^[12] is an interesting strategy in teacher education to address controversial issues, allowing the possibility of avoiding surprises and dealing with them appropriately when they arise spontaneously in the classroom or are deliberately raised on the basis of curriculum development^[25,36]. In all of these topics, gender and its diversity, conflicts or symbolic and physical violence are issues inherent to all historical societies, which is why they must be visible and intentionally dealt with in the teaching of social sciences from interdisciplinary integrated models and perspectives^[27,32–34]. In this sense, in order to avoid “exclusionary impartiality”, “exclusionary neutrality” or “impartial neutrality”, we believe it is advisable to adopt the position of “committed impartiality”, operationalizing historical thinking and multi-perspective in the teaching-learning process.

6. Limitations

The main limitations of the present study lie in the selected research design. The quasi-experimental design without a control group limits causal inferential justifications for the effectiveness or impact of the teaching intervention. Since it cannot be assured that the observed changes are not attributable to other interventions or uncontrolled factors, the absence of a control group has to be considered as a reason for lower internal validity of the results.

Likewise, also in the area of internal validity, the occasional absence of students in some of the activities programmed in the intervention could not be controlled to reduce its possible effect on the results (experimental mortality). Similarly, specific events, independent of the teaching innovation plan, which may have occurred and affected the trainee teachers before and after the treatment (history), could not be explained or analyzed as a potential alternating factor in the effects of the programme.

Author contributions

Conceptualization, DOS and CBA; methodology, DOS; software, DOS; validation, DOS; formal analysis, DOS; investigation, DOS and CBA; resources, DOS and CBA; data curation, DOS and CBA; writing—original draft preparation, DOS and CBA; writing—review and editing, DOS and CBA; visualization, DOS and CBA; supervision, DOS; project administration, DOS and CBA; funding acquisition, DOS. All authors have read and agreed to the published version of the manuscript.

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Conflict of interest

The authors declare no conflict of interest.

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