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Perceptions on the use of heritage to teach history in Secondary Education teachers in training

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Recently, heritage education has undergone significant development, consolidating itself as a scientific discipline in the last two decades. In this sense, it is a key element for teaching history and training social and civic skills. However, in Spanish school contexts the presence of heritage in connection with historical education is currently scarce and anecdotal. Transforming this situation necessarily involves knowing the opinion of future Secondary Education teachers about the possibilities that they grant to heritage to develop historical thinking. Only in this way it is possible to detect the needs that future teachers show to intervene in them and improve training processes at the university. Therefore, this paper analyses the perceptions of heritage in future secondary education teachers at three Spanish universities (Malaga, Almeria, and Murcia), with a total sample of 112 participants ($n = 112$). It combines a quantitative study using a Likert scale questionnaire, with a qualitative one, by means of a series of open questions about the participants' perceptions of teaching methodologies and didactic resources. This allows some striking conclusions to be drawn, as well as certain contradictions that allude to the gap between the hegemonic forms of teaching that they have known as students, and those that they would like to develop when they enter teaching. These trainee teachers attach great importance to the use of tangible and intangible heritage to teach history and make it an attractive subject. They also show great interest in local history, museums, and new technologies. All of this is rarely used in the teaching of history in Spain at the Secondary Education stage, and therefore is a deficiency that future teachers recognize needs addressing. The teaching of heritage should promote a greater role for students, making them builders of their own learning. This means acquiring not only concepts, but above all skills and civic values, based on the study of heritage.

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Introduction

Heritage education is one of the most prominent elements in social science teaching (Fontal and Ibáñez-Etxeberria, 2017). It has become particularly vigorous, broadening the polyhedral notion of heritage and its great relevance for civic education, while having a strong identity component (Ocal, 2016). Heritage refers to collective roots, to our ancestors and their ways of life. Heritage is not only understood as monumental elements, but also as something alive and changing, which includes landscapes (natural and anthropized), the scientific-technological and the ethnological (Cambil and Fernández, 2017). In other words, Heritage as a whole, which ranges from traditions to oral histories, archeological sites, museums, the remains of industrial activities and lost trades, among many other things (Ahmad, 2006; Ahmet, 2018).

Educating future citizens in the study and preservation of heritage implies that they be aware of the elements of their immediate environment. To this end, work with primary sources and school outings are essential (Cooper, 2018; Vilarrasa, 2003). Often this nearby heritage is deteriorated or has disappeared when it loses its original functionality. Even if it is preserved, it is unknown to students and, ultimately, to society in general. The key is to bring it closer and provide it with meaningful content, comparing it with other times, ways of life and places. It is a reflection of the society in which it emerged, of its daily life, desires, beliefs, means of production, and conflicts (Apaydin, 2018).

Postmodern societies tend to think of heritage in terms of economic parameters, of tourism performance, which trivializes the most attractive cities and landscapes, and ends up disconnecting the local population from this flow of masses, and even drives them away from the old towns, through the well-known process of gentrification (Buckley and Graves, 2016). But a society that underestimates its cultural legacy, both material and immaterial (Santacana and Llonch, 2015), is an immature society, which will allow it to continue to be destroyed or manipulated (Soininen, 2017).

Heritage is collective symbols, landscapes, buildings, artists, museums, music and folklore. But it must be an element of cohesion, through education. If something is not known, it cannot be taught and, therefore, heritage is condemned to oblivion or to a selfish use, be it economic or even nationalistic or localistic. This is highly complex, yet also supposes attractive challenges when it comes to bringing out the best in our common heritage (Cuenca, 2003; Fontal, García and Ibáñez, 2015). Thus, knowing and valuing heritage can serve as a way out of the teaching of history by memory, by encouraging participation, inquiry and questioning who we are and where we are going. A people that does not take care of its heritage will inevitably see its essence diluted and altered.

Literature review

One concern of history teaching in recent years has been to ascertain students and teachers' perceptions of the teaching-learning process. Our is of great interest as it is based teachers in training (Gómez et al., 2018). Their ideas on the teaching of history and heritage reveal a double view. On the one hand, their condition as students, in this case postgraduate students, and on the other, their condition as future teachers. The sample comprises students from the Master's Degree in Teacher Training in Secondary Education at three Spanish universities: Malaga, Almeria, and Murcia, and specifically those specializing in Geography and History, whose main employment outlet is secondary education teaching.

These are the people who must renew a discipline which in research has made a huge qualitative leap in recent decades (De

Troyer, 2005; Emiliani, 2007), but the same is not true of teaching, where classical methodologies predominate, the protagonist is essentially the teacher, who transmits knowledge and skills, and leaves the student to play a passive role (Merchán, 2005). The lecture is not bad per se, but it should be combined with other active methodologies which give students an active and critical role and make them rethink the interest and usefulness of historical knowledge (Kasapoglu, 2016). But the inertia of teachers and a legislation that rewards conceptual content and extensive syllabuses, hinder any change of paradigm. Moreover, it is more comfortable to stick to this expository methodology, which is used alongside the school manual as a key educational resource, together with summative evaluation (Miralles, 2015; Valls, 2018).

Indeed, it is precisely in Secondary Education where this archaic model of teaching history, which is boring and unmotivated in general, most prevails. It is a model that promotes the teaching of a national and European narrative (López Facal, 2010), leaving little room for local knowledge with its focus on political regimes, powerful men and social and economic issues, but detached from the everyday life of current and past societies (Rodríguez et al., 2017). Nevertheless, there have always been and still are exceptions, which seek to break out of the classroom to acquire skills and which not only aim to get the students to memorize facts and figures, but also to initiate them researchers' apprentices and to get to learn about distant and nearby environments critically. In other words, they want students to acquire skills, to learn to think historically, but also to be trained as citizens, with civic and democratic values (Lobovikov-Katz, 2019). This scenario has been in place for years in many European and Anglo-Saxon countries, from the initial educational levels (Cooper, 2018; Curtis and Seymour, 2004). In short, it involves selecting content to work on in depth, through case studies, projects, challenges, problem-based learning, and school outings (Galindo, 2016).

The views of future Secondary Education teachers reflect the contradictions of their age and the educational model in which they have been trained. They are aware of the need to teach conceptual content, which is key to beginning new subjects, conclude these, and correct preconceived or erratic ideas. But at the same time, they miss a less traditional teaching of history, which combines the conceptual with the procedural and attitudinal (Sanger et al., 2015). As for heritage, they attach great value not only to the material, that is, the monumental, which has always appeared in legislative decrees and manuals, but also to the intangible, especially issues such as music (Foley, 2014). However, they lack skills when it comes to their implementation in the classroom. It is true that they have mastered the new technologies, which are indispensable in everyday life, but not so much in the classroom. This suggests that, although they know about information and communication technologies (ICT), it is difficult for these to become learning and knowledge technologies (LKT) (Cambil and Romero, 2016; Garner et al., 2016). They have hardly ever, as students, seen applications like augmented reality and virtual recreations (Monteagudo et al., 2020), so it is normal that they do not conceive of them for didactic use (Haddad, 2016).

However, the heritage they have studied is subject to historical factual knowledge, so it remains subsidiary. Educational laws and history textbooks in Spain include it as a complement to each historical stage, in a linear and uncritical sense, and often as a mere illustration of each civilization (Valls, 2018). Although it may give its name to stages such as the Renaissance or the Baroque, in the end it is political content that predominates and, to a lesser extent, economic and social content. The cultural

accompanies and emphasizes the great artists, patrons and works of each period, but a classical vision still prevails, which ignores local and intangible heritage, as well as the decorative arts, in favor of architecture, painting and sculpture, and the archeological remains (ceramics, weapons, various utensils) for periods like Prehistory and the Ancient Age.

Method

Objectives. The main objective of this study is to ascertain teachers in initial training’s perceptions about the use of heritage as a resource for Secondary School History teaching. Within this general objective, three specific objectives are also proposed:

- a. To ascertain which heritage resources are most highly valued by future teachers, for teaching history through heritage.
- b. To analyze the assessment made by teachers in initial training of heritage and its types as a resource for teaching history and developing history skills.
- c. To investigate the memories and educational experiences that future teachers have regarding the use made of heritage for learning history during their time as students.

Participants. The selection of the participants was non-probabilistic sampling, since an informal sample selection procedure was followed, depending on the researchers (Sabariego, 2016). In our case, the sample was been selected according to accessibility to the subjects. Within this non-probabilistic sampling technique, we should note that it was an intentional or convenience sampling, since subjects were selected on the basis of their being accessible or appropriate to the objectives of the research (McMillan and Schumacher, 2005). The participants were teachers in initial training in the specialty of Social Sciences (Geography and History), who had completed the Master’s Degree in Teacher Training for Secondary School Education during the 2019–2020 academic year. The research was carried out in three Spanish universities in the Mediterranean area (Table 1).

Sociometric analysis determined that out of a total sample of 112 individuals ($n = 112$), 58.93% of the sample were men (66), while women represented 41.07% (46) (Table 2). An analysis by universities reveals that the institution with the greatest equality in relation to the sex of the participants was Malaga, where 54% were men and 46% were women. In Almeria, on the other hand, the difference widens, with 57% of the participants being male, compared to 42% female. Finally, in Murcia, we observe how 65% of the respondents are men against 35% of women.

Training-wise, 54.46% (61) of those surveyed had accessed the Master in Teacher Training after completing the Degree in History, while 21.43% (24) had done so after completing their studies in the Degree in History of Art. 9.82% had joined after completing the Degree in Geography and, finally, 6.25% had completed the Degree in Philosophy. These are the most common university degrees for access to the specialty of Social Sciences, while other origins represented 8.04%. In relation to age, we observe a relative equality among the participants, with 65.18%

between 23 and 25 years old (Table 3). The average age of the men was 26.16 years, while the average age of the women was 25.71 years. The only data of interest in this sense is found in Malaga, where men had an average age of 29.30 years, that is, 3 years more than the average of the three universities.

Finally, barely 14% of the participants had taken a course in educational innovation at the time of answering the questionnaire. Among those who had completed the course, training focused on new active learning methodologies (6), educational technology (3) or the use of other teaching resources such as heritage, sources, etc. (3). Although the students at the University of Málaga (7 of the 16) are those who have had most training, the University of Murcia and the University of Almeria showed a certain balance, with 5 and 4, respectively, having completed this type of training.

Research design. This study is part of a basic type of research, which aims to investigate a given reality, without seeking to apply the results to practical problems (McMillan and Schumacher, 2005). In terms of research design, it has a mixed methodological approach, also known as “multi-method”, “multi-strategy”, or “mixed methodology” (Bryman, 2006; Núñez, 2017), given that it combines quantitative and qualitative analyses. In this case, according to Teddlie and Tashakkori’s (2006) classification, the design can be framed in a simultaneous design—also known as simultaneous triangulation (Morse, 1991)—or in a triangulation typology (Creswell and Plano, 2007, p. 77), where the two different methods are used to obtain triangulated results about a single topic.

We understand that the application of a mixed model, where both approaches are developed at the same time (Johnson and Onwuegbuzie, 2004), is a single study using multiple or mixed strategies to answer the research questions. Thus, on the one hand, a non-experimental quantitative survey type design was used, applying a questionnaire as an instrument for the collection of information through a Likert scale questionnaire (1–5). Research by survey was chosen because of its versatility, efficiency, and generalization (McMillan and Schumacher, 2005), as well as for its ability to respond to problems both in descriptive terms and in relation to variables, when the information is collected systematically, thus ensuring the rigor of the data obtained (Hernández and Maquilón, 2010).

On the other hand, a qualitative design was integrated through an open questionnaire (Núñez, 2017), organized in several questions designed to collect information in an unstructured way about the same phenomenon. In this sense, although it is true that the questionnaires are used for quantitative purposes, the qualitative researcher also finds in this technique a useful and valuable instrument for data collection (Pourtois and Desmet, 1988; Jansen, 2013).

Instruments. The quantitative data used for this work are part of a Likert scale questionnaire (1–5), entitled “Questionnaire on approaches to the teaching of history”. The questionnaire consists of two parts. The first identifies participants’ data and the second is made up of two thematic blocks that include the 78 items to be assessed by the respondents. The first block, entitled “Teaching approaches”, has 20 general statements or items, related to the teaching of history, focused on assessing the purposes of teaching this subject and the most appropriate methodologies for it. These items are scored from 1 (I strongly disagree with this item) to 5 (I strongly agree with this item). The second block is divided into five sections, which focus on the participants’ opinions regarding the most relevant topics to be taught in history classes; the skills that should be acquired in these classes; the most appropriate

Table 1 Participants: distribution by universities.

Universities	N	%
U. of Malaga	37	33.04
U. of Almeria	35	31.25
U. of Murcia	40	35.71
Total	112	100

Table 2 Distribution of participants by sex and university.

	U. of Malaga		U. of Almeria		U. of Murcia		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Male	20	54.05	20	57.14	26	65	66	58.93
Female	17	45.95	15	42.86	14	35	46	41.07
Total	37	100	35	100	40	100	112	100

Table 3 Distribution of participants by age and university.

	U. of Malaga		U. of Almeria		U. of Murcia		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
20-25	19	51.35	27	77.14	27	67.5	73	65.18
26-30	10	27.03	5	14.29	9	22.5	24	21.43
>30	8	21.62	3	8.57	2	5	13	11.61
Blank	0	0	0	0	2	5	2	1.79
Total	37	100	35	100	40	100	112	100

Table 4 Items analyzed in this research.

Item	Name
56	Museums and other heritage interpretation venues.
61	Local and regional festivities and traditions of historical content.
62	Virtual recreations of museums and other centers of heritage interest.
63	Applications of historical and heritage content for mobile telephones and tablets.
65	Nearby historical and cultural heritage.

materials and resources for the teaching of history; the exercises and activities that should serve to evaluate the historical knowledge and skills acquired by the students; and, finally, the attitudes and behaviors that a teacher should adopt when dealing with a controversial topic in his/her classroom. All these sections comprise a total of 58 items, which should be scored from 1 (barely relevant) to 5 (very relevant).

The data selected for this work correspond to items 56, 61, 62, 63, and 65, collected in the third section of the second block aimed at examining the opinion of future secondary school teachers regarding which materials and resources are most appropriate for teaching history. In line with the objectives of this research, of the 16 materials and resources present in this section, only the five items relating to the use of heritage as a resource in history classes were selected. The evaluation of these items by the participants was analyzed quantitatively, by statistical tests to ascertain the importance that teachers in initial training give to heritage for teaching history. Table 4 shows the questionnaire items analyzed.

The participants also had to answer another questionnaire with 10 open-ended questions, which asked them about their conception of heritage; the didactic possibilities it offers for teaching and learning history; the benefits it brings for the teaching of this subject and the development of historical competencies; the typology of heritage they would work on in their classes; the learning that can make the use of local and regional heritage possible; the skills that can be acquired through the use of local and regional heritage; the suitability of using the heritage of other countries in history classes; the heritage elements that are most appropriate for teaching history; the

heritage related teaching methodologies and resources that they would work on in their history classes; and finally, the teaching activities and methodologies that they remember having experienced, regarding the use of heritage as a resource, during their time as students.

Given the research objectives set out above, the qualitative analysis of the responses to the open questionnaire focused, preferably, on those that provide us with information about the memories that future teachers have of educational experiences with heritage; those that examine their opinions about whether heritage has educational potential and is beneficial for the teaching of history; and, finally, those that provide data in relation to the typology of heritage that they would work on in their classes, and the heritage resources that they would use most.

Analysis of the information. The analysis of student opinion on the use of heritage as a resource for teaching history was performed at two levels. On the one hand, quantitatively the statistical analysis program XLSTAT version 2020.1.3 was used.

However, before carrying out the relevant data analysis, an internal consistency calculation was carried out, based on Cronbach's alpha, which estimates the reliability of a measuring instrument composed of a set of items. We take, as a general acceptance criterion, that the coefficient must be higher than 0.70 (Oviedo and Campo-Arias, 2005). Thus, in the case of items related to resources linked to equity, it gives us an ordinal alpha coefficient of, 74, which is why we can consider the coefficient as acceptable.

On a second level, a qualitative analysis of the questionnaire of 10 open and free questions was performed. These were analyzed with the software Nvivo version 12. First, there was an automatic coding of the questions, carried out by the program, directly generating 10 codes—one per question; second, a free coding of the information was carried out by means of the most recurrent concepts in the text; and, subsequently, a “live” coding was carried out during the reading of the data. Finally, a set of 58 items or codes was conceived, whose analysis and interpretation was carried with instruments such as code matrices or clustering by word and code similarity.

Analysis of the results

Analysis of the quantitative results. To put into context the results taken from the Universities of Malaga, Almeria, and

Table 5 Ratings of heritage resources at all the universities surveyed.

Item	Min.	Max.	Mean	Median	1%	2%	3%	4%	5%
56	2	5	4.49	5.00	0.00	0.78	6.22	35.80	57.20
61	1	5	3.86	4.00	1.40	5.28	27.20	38.70	27.50
62	1	5	4.12	4.00	0.62	3.28	16.40	42.60	37.10
63	1	5	3.65	4.00	4.19	7.14	27.60	41.30	19.70
65	2	5	4.61	5.00	0.00	0.46	5.58	26.80	67.10

Table 6 Results of items according to the universities studied.

Item	University	Min.	Max.	Mean	Total mean	1%	2%	3%	4%	5%
56	UMA	3	5	4.65	4.61	0.00	0.00	2.86	28.60	68.60
	UAL	3	5	4.66		0.00	0.00	5.41	24.30	70.30
	UMU	2	5	4.53		0.00	2.50	7.50	25.00	65.00
61	UMA	3	5	4.14	4.05	0.00	0.00	18.90	48.60	32.40
	UAL	2	5	4.14		0.00	2.86	11.40	54.30	31.40
	UMU	2	5	3.88		0.00	5.00	27.50	42.50	25.00
62	UMA	3	5	4.38	4.31	0.00	0.00	10.80	40.50	48.60
	UAL	2	5	4.49		0.00	0.00	2.86	45.70	51.40
	UMU	1	5	4.08		2.50	2.50	22.50	30.00	42.50
63	UMA	2	5	4.05	3.91	0.00	5.41	13.50	51.40	29.70
	UAL	2	5	3.97		0.00	2.86	20.00	54.30	22.90
	UMU	1	5	3.73		5.00	12.50	15.00	40.00	27.50
65	UMA	4	5	4.73	4.73	0.00	0.00	0.00	27.00	73.00
	UAL	4	5	4.74		0.00	0.00	0.00	25.70	74.30
	UMU	3	5	4.72		0.00	0.00	7.50	12.50	80.00

Murcia, and to establish comparisons with the results obtained at the national level (22 universities), where the “Questionnaire on approaches to the teaching of history” was applied, we look at the quantitative analysis carried out to determine which teaching resources are most highly valued by the teachers in initial training surveyed for teaching history. Nearby historical heritage (item 65) was the most highly valued (4.61), followed by museums (item 56), which was scored 4.49 (Table 5). Together with these, virtual recreations of museums and other centers of heritage interest were considered by those surveyed to be an equally valid resource, as shown by the rating of 4.12 (item 62) given by the participants. However, at some distance we find festivities (item 61) or other elements of intangible heritage, valued at 3.86; or the use of mobile telephone applications (item 63), with a lower rating, at 3.65.

This analysis of the general assessments allows us to draw valid comparisons between the whole—national level—and the universities analyzed in this research. Thus, the students of the three universities here rate nearby historical heritage (item 65) higher (4.73 on average) than the joint sample (Table 6), and it is in fact the best valued resource of all. Second, those surveyed at the three universities gave a higher mean score (4.61) to the use of museums as valid teaching resources for teaching history. This figure is slightly higher than that from all the national universities (4.49). However, there was a similarity between the trends among students in initial training at national level and at the universities studied in considering nearby or local heritage and museums as the most important and useful resources for teaching history.

For the item referring to “virtual recreations” (item 62), the joint evaluation of the three universities (4.31) is higher than the national (4.12), with the Andalusian universities (University of Almeria, 4.49 and University of Malaga, 4.38) scoring it higher than Murcia, which was nearer the general parameters (4.08). As for item 61, which refers to local and regional festivities and traditions of historical content as a resource to be used in the

classroom—a major element, in recognition of the usefulness of intangible heritage for teaching history—the three universities analyzed show an average score of 4.05, which is slightly higher figure than the national score (3.86), although equally low in relation to the score they offer for the other items. In this sense, the best score obtained was in the Andalusian universities (4.14), compared to Murcia (3.88), which is similar to the national context.

Finally, item 63 of the questionnaire, relating to the use of mobile applications in educational contexts for the teaching of history, was the least considered by the participants. The national student body gave a score of 3.65 to this resource while those from the three universities analyzed gave it a score of 3.91, with the Andalusian universities again giving higher scores (3.97 in the case of the University of Almeria and 4.05 in the case of the University of Málaga), than the University of Murcia, whose score was similar to the national one (3.73).

In short, the most highly valued resource by the students surveyed is nearby historical heritage (4.73), followed by museums and other exhibition facilities (4.61), and these trends are repeated throughout the country. Less recognized resources for teaching are mobile applications of historical and heritage content (item 63) and intangible heritage linked to festivals and traditions (item 61).

Results of the qualitative analysis. The quantitative analysis is complemented by a qualitative analysis based on the participants’ answers to the aforementioned open-ended questionnaire. This instrument allowed participants to go more deeply into aspects related to the use of heritage in teaching contexts from different perspective with the focus on the value they give to heritage as a resource for the teaching of history; the didactic and pedagogical approach to its implementation in the classroom, with special reference to the resources, types of heritage and methodologies best suited to this purpose; and memories. The questionnaire was

applied immediately after the close-ended questionnaire, and was answered by a total of 110 participants ($n = 110$), corresponding to 36 from the University of Malaga, 35 from the University of Almeria, and 39 from the University of Murcia. There were, therefore, two less participants than in the closed-ended questionnaire.

After coding of the qualitative analysis of the results with the Nvivo program, a list of codes or concepts was drawn up, which included the set of teaching resources linked to the use of heritage in the classroom, which were mostly mentioned in their answers by the participants from the three universities. The coding showed how ‘intangible heritage’, with 104 mentions, appeared, with respect to other occurrences or codes, as the most relevant teaching resource for teaching history according to the students in initial teacher training. It was followed, at some distance, by ‘local heritage’ (83), ‘artistic heritage’ (81), ‘monuments’ (76), ‘museums’ (71), ‘audiovisual’ media or resources (57), and ‘historical sources’ (51). These answers form the respondents’ conceptual map as to which elements of heritage should be used in to teach history.

The list of concepts or codes indicated, despite the high visibility of intangible heritage which we will comment on, confirms the results obtained in the quantitative analysis, thus reinforcing the relevance given to local (or nearby) heritage and museums. As for ‘intangible heritage’, this code comprises ideas such as: ‘traditions’, ‘sayings’, ‘oral culture’, ‘gastronomy’, ‘festivities’, ‘fables’, ‘dance’, or ‘flamenco’. Following the tendency of the quantitative results, the specific mentions to “festivities” were not very relevant (18), compared to more representative elements like “music” (43).

In relation to the use of intangible heritage, the answers to question 4: What other types of heritage would you work on in your classes? (Table 7), focused generally on intangible heritage (65), which duplicates other options, such as artistic (31) or documentary (23) heritage. It is also worth mentioning the outstanding importance given to music which, although treated independently in this table, was considered in this research as an intangible heritage element.

To continue with the analysis of the coding, a cluster study of the similarity of the words of the coding, applying Pearson’s correlation coefficient (where the closer to 1.0 the more intense the relationship is) reveals important interactions between certain concepts. First it highlights the link between “Local history” and “History teaching” (0.881326); as well as between “Didactic visits” and “Didactic strategies” (0.835465); “Didactic resources” and “Cultural heritage” (0.834037); “Didactic resources” and “Intangible heritage” (0.818681); “Didactic resources” and “Local heritage” (0.789192); “Local heritage” and “History teaching” (0.772196) and finally “Didactic visits” and “Museum” (0.76321).

Therefore, we can again highlight the importance that teachers in initial training give to intangible heritage and its

use as a teaching resource for teaching history (0.818681 out of 1). Nevertheless, the importance those surveyed gave to local history and local heritage as fundamental axes of history teaching of history in Secondary Education should be noted. Not in vain is the relationship established between “Local history” and “History teaching” (0.881326 out of 1), “Didactic resources” and “Local heritage” (0.789192 out of 1) and, finally, “Local heritage” and “History teaching” (0.772196 out of 1); which invites us to highlight the relevance of “what is nearby” in the teaching–learning processes of historical contents through heritage.

In contrast, the use of ICT and the Didactic Strategies node receive a correlation of just 0.632571, which is in line with the quantitative analysis, where the assessment of the use of mobile applications for the teaching of history is the lowest. “Audio-visuals” (57 mentions) stand out for respondents as the most appropriate technological alternative or resource. However, it is worth noting the scarce relevance given to audiovisuals, compared to other didactic preferences which are mentioned far more.

Fifty-two participants in the open questionnaire analyzed qualitatively cited directly or indirectly the use of ICT in relation to teaching and learning history when heritage was used as a resource. In other words, 47.27% of the sample indicated the convenience of using the possibilities of technology for this purpose. However, although they call for greater use of the web or Internet, they hardly mention the use of mobile applications. In fact, on only four occasions is the use of technological applications explicitly mentioned (0.01% presence in the text), preferably through mobile telephony. There are hardly any references to “historical recreations” (3) or “monumental recreations” (1) linked to technological contexts and they do not specify exactly what such recreations would consist of.

As Table 8 shows, where the coding of the open questions has been crossed with the items analyzed quantitatively, the students preferentially link the museums with the memories they have of the teaching received (10. Memories—Item 56), given that on 50 occasions they mentioned the museums or their derivatives in response to this question. At the same time, they considered this resource as one of the main heritage elements to be used for teaching history in secondary education (8. Elements—Item 56), given that on 54 occasions they stressed this aspect. To a lesser extent (18 mentions), although still relevant, the students valued its use in the classroom positively, recognizing that museums will form part of their future educational practice (9. Methodologies—Item 56). Those surveyed made an appeal to intangible heritage when they presented the different types of heritage that exist (4. Typology—Item 61), mentioning it on 22 occasions. In these cases, they recognize, identify, and value it, yet find it difficult to incorporate history teaching–learning, as is shown by the fact that there is almost no specific mention of this resource in question number 9 regarding the methodologies or future resources to be used in the classroom (two mentions).

To continue with the analysis, students link the use of mobile applications, virtual recreations or other elements related to the handling of technology with the methodologies they wish to implement in their classroom in the future (48 mentions). So, it is clear that the education that these students project is a digital, virtual education with technological elements as the main tool (9. Methodology—Item 63). However, this contrasts with the scarce value given to item 63, in the closed-ended questionnaire. Finally, it should be noted how future teachers group their responses around the use of local or regional heritage with the learning of history (27 mentions). That is, when teaching historical content, this type of heritage is valued as the best resource (5. Learning—Item 65). Similarly, it should be noted that this element has been

Table 7 Classification of heritage typology according to the questionnaire.

Type/questions	1	2	3	4	5	6	7	8	9	10
Archeological	0	2	2	8	2	0	0	9	4	5
Artistic	0	4	5	31	7	1	0	24	6	3
Documentary	0	0	2	23	1	0	0	9	2	0
Ethnological	0	0	0	6	1	0	0	2	1	0
Intangible	1	2	2	65	3	1	0	24	2	5
Furniture	0	0	0	6	2	0	0	2	0	1
Musical	0	1	1	27	1	0	0	8	4	1
Natural	0	0	0	19	0	1	0	5	1	4
Architectonic	0	0	0	2	1	0	0	7	0	1

Table 8 Matrix of codes according to open questions and items.

Coding	Item 56 (museums)	Item 61 (intangible heritage—festivities and traditions)	Item 63 ^a (virtual recreations and mobile applications)	Item 65 (local heritage)
1. Representation	0	3	0	0
2. Possibilities	9	1	5	9
3. Potentialities	6	2	1	11
4. Typology	10	22	4	8
5. Learnings	0	2	1	27
6. Competencies	1	0	6	8
7. Countries	0	0	0	2
8. Elements	54	5	0	4
9. Methodologies	18	2	48	6
10. Memories	50	0	2	9

Given the score mentions of Item 62 "Virtual recreations of museums and other centers of heritage interest", these were paired with Item 63.

Table 9 Coding of question 9: methodologies in teaching strategies.

Coding	Number
Didactic outings	52
ICT	48
Debates	11
Flipped classroom	9
Group work	9
Gamification	8
Dramatization	6
Research work/inquiry	6
Lectures	4

Table 10 Table of mentions of code "historical resources" in the open questions.

Questions in the questionnaire	Mentions
1. Representation	0
2. Possibilities	3
3. Potentialities	10
4. Typology	11
5. Learnings	1
6. Competencies	4
7. Countries	0
8. Elements	7
9. Methodologies	11
10. Memories	4
Total	51

considered a key element in the incorporation of heritage into the history classroom, above other major heritage elements of a national or international nature.

The coding also allowed us to discover the didactic strategies that, in the opinion of the students, are most interesting to implement in the classroom. As can be seen in Table 9, educational visits to heritage sites or museums are, together with the use of new technologies, the preferred choices.

Thus, we observe how innovation is gradually being incorporated into the classroom, as is seen in initiatives such like the Flipped Classroom or strategies like gamification. More specifically, "didactic visits" as a teaching strategy received 175 mentions in the responses analyzed. References to the ordinary visit to a museum, field work, an excursion or a trip are also included. 97 respondents, 88.8%, mentioned this strategy in their open responses, which confirms its importance as the main option for students in initial teacher training. The assessment of the University of Murcia stands out especially, with 92% response (36 out of 39).

Finally, it is also worth noting, from Table 10, the importance that the students surveyed give to the use of historical documentary sources for teaching history (51 mentions). One in three students (35) made specific references to the use of such sources as an outstanding heritage element in their answers.

We highlight this response in view of the importance of the use of sources for the development of historical thought (Seixas and Morton, 2013) and the improvement of the teaching-learning processes of historical contents. At the same time, it is important to emphasize the consideration students have for documentary sources as a heritage element in themselves, related to the conservation of the memory of history and, evidently, the

recognition that they are a necessary resource for teaching history in Secondary Education.

Discussion

Based on the results, certain lines of debate arise. Participants from the Andalusian universities reported, in all the items, higher values than those from the University of Murcia. So, we wondered what particularity the Andalusian universities present with respect to Murcia. Recent studies (Fontal et al., 2017; Oriola, 2019; Martínez and Fontal, 2020) present the official curriculum of the Autonomous Community of Andalusia as one of the most developed normative texts in the field of heritage. Therefore, we propose as a hypothesis, for future comparisons, that this fact may be taken into consideration in the results, that is, that the presence of heritage in the development of the educational curriculum may have an influence on the perception that future teachers have of its use as a resource in the classroom.

Elsewhere, in general, both at the national level and in relation to the three universities analyzed, the best evaluation is of the use of nearby historical heritage, while the lowest evaluation is recurrently for the use of mobile applications. The first result can perhaps be explained by the interest that local heritage has in the teaching of history, by the numerous possibilities it affords, since it allows historical facts of interest to the students to be addressed, in turn allowing them to be contextualized in wider global settings (Estepa et al., 2013) and students can mobilize their feelings and emotions, thus generating the construction of individual and collective identities (Castro and López-Facal, 2019; Marqués et al.,

2020). In addition, the students' own experience with heritage should also be noted. Traditionally, the treatment of heritage in the classroom has been through outings or guided visits to heritage sites near the school (generally museums or monuments, an item that was also highly valued), so it is possible that these routines and previous educational experiences also influence their appreciation of local heritage. It is worth noting recent works, such as Parra (2019), which give a good account of how the didactic routines experienced generate social representations in our students, future teachers, which influence their professional practice and the construction of their identity as teachers.

The low consideration given to the use of mobile applications and tablets with historical and heritage content, as well as to new technologies in general, with 52 participants (47.27%) indicating the convenience of using them to teach history, contrasts with the positive consideration usually given to ICTs by teachers in training (Bullón et al., 2008; Cózar and Roblizo, 2014; Roblizo and Cózar, 2015; Miralles et al., 2019). However, this apparent contradiction, in our opinion, is explained by the insecurity generated in those surveyed by the lack of specific training to work with these tools and the scarce digital skills they possess to do so (Cabero, 2014; Colomer et al., 2018; Girón et al., 2019). This has been evident in a variety of research studies that focus on the need to strengthen initial teacher training in this regard (Tascón, 2012; Trigueros et al., 2012; Cabezas et al., 2014; Cózar and Roblizo, 2014; Mur, 2016; Colomer et al., 2018; Gómez et al., 2020), so that ICT ceases to be an element of motivation or experimentation, and becomes the origin of real methodological change in the classroom (Marquès, 2013).

Hence, a detailed analysis of the results reveals that the students participating in the research clearly agree that future education should be based on the application of digital, virtual, and technological components; however, their answers are ambiguous and unspecific. Indeed, they do not specify any type of tool to be used. The existing perception is that they are aware of the potential of ICT, but they are not able to accurately outline a range of real possibilities, through resources or digital means, because of their lack of didactic knowledge about it. It is noteworthy that little mention is made of emerging technologies with notable potential in the educational processes that use heritage, such as mobile applications, virtual reality, or augmented reality (Luna et al., 2019, 2020).

With regard to intangible heritage which, let us remember, is the most recurrent concept in the open responses to the questionnaire (103 occurrences), there is a clear conflict with respect to its position in the closed questionnaire, where item 61 relating to local and regional festivals and traditions is one of the least valued. This deaf dialog should be explained by the difficulty students have in clearly defining what is intangible heritage, what elements make it up and how it can be integrated into the classroom (Chaparro and Felices, 2019). The students, as shown in the qualitative analysis, value, and recognize it, but not in all its forms, they do not consider the festivals or traditions of historical content a good resource for teaching history. These results are similar to Miralles et al. (2017), who found in similar research that both Spanish and English teachers in initial training value this type of heritage in an intermediate way. In spite of the efforts made in recent years to make intangible heritage and its educational possibilities visible (Santacana and Lonch, 2015), tangible heritage, in the form of museums, monuments, archeological sites, etc., continues to be valued more by future teachers.

Important connections have also been made between the terms "guided tours" and "history teaching". In this case, guided tours are related to didactic strategies and to museums, which seems to be clear proof that this relationship is one of the most recognized between the teaching of history and heritage (Miralles et al.,

2017). Finally, it is worth noting the importance given to historical sources as a heritage resource, since participants agreed that this element is key to the teaching of history and the development of historical thinking (Carretero, 2011; Ashby, 2011; Sáiz, 2014; Domínguez, 2015; Prats, 2016).

Conclusions

Returning to our initial objectives, in relation to the most suitable heritage resources for teaching history, the historical and cultural context is of particular importance, while at the same time the need to take advantage of the heritage manifestations that surround the students to bring them closer to local history is highlighted. This is evident in the link established between local history—history teaching—teaching resources—local heritage; and between local heritage—history teaching. The results reveal a triangulation between "the local", the teaching of history and resources such as sources, museums, and nearby heritage, as fundamental pillars to appropriately develop the historical contents.

In addition to the heritage that is close at hand, future teachers also favorably value intangible heritage as a key pillar for teaching history (Miralles and Molina, 2011), even above great heritage references like monuments or museums, although these are also considerably appreciated, as we have already mentioned. In relation to intangible heritage, the truth is that certain deficiencies are detected when it comes to identifying it properly, as well as incorporating it into the teaching–learning processes.

As for teachers in training's perceptions about the use of heritage elements in the teaching–learning processes of historical contents, we confirm that there is a positive assessment towards the incorporation of this resource in Secondary Education teaching, as is evidenced by similar works (Miralles et al., 2017; Chaparro and Felices, 2019; Gómez et al., 2020). However, these positions contradict to some extent the opinion of active teachers, who have a more fragmented and academic vision of the use of heritage in the classroom, giving it a more static and monumental assessment that is incorporated into the teaching process with a mainly descriptive character (Molina and Muñoz, 2016).

Regarding memories of teachers in training in relation to the use of heritage in history teaching are based almost exclusively on guided outings to museums or similar spaces. These outings, though, functioned as a complement to a preferably traditional education. Nevertheless, visits to museums are practices which they would maintain, but which are seen as a complement to other resources, i.e., they are one more alternative, but not the only one, in their teaching.

We find it remarkable how little identification future teachers make, at least initially, of the use of technological resources related to heritage, despite the great progress made in this field. The qualitative analysis reveals an evident lack of recognizing, identifying, and specifying heritage and establishing specific or alternative instruments to develop a teaching process. It is probably this circumstance that explains how the items in the closed and quantitative questionnaire, linked to digital or technological resources (such as applications for mobile phones and tablets), have been the worst evaluated by the students consulted. However, in relation to their professional future, there seems to be a trend towards the need to incorporate technological and digital means. We observe, therefore, a contradiction in the opinions provided by the students. They consider that the use of ICT resources in educational contexts is necessary, still, they give low consideration to those same ICT resources when it comes to their being used to teach and learn history in connection with heritage. This result reveals that it is important to increase the digital

competence of future teachers in order to train them in the use and knowledge of specific technological resources for heritage and historical education (Ibáñez-Etxeberria et al., 2019).

In short, we conclude that students, while recognizing the potential of heritage for the teaching of history, manifest difficulties when it comes to properly incorporating into the teaching-learning processes of history. We detect erroneous conceptions about educational outings in future teachers and limitations to recognize heritage typologies. Besides, we appreciate that those students failed to value the role of new technologies in connection with heritage and the learning of history. These shortcomings show the need to implement training plans to improve teaching skills in order to integrate heritage in history teaching. Regarding initial teacher training, in our opinion, its improvement inevitably involves projecting university educational practices that are sourced from real experiences and which can be carried out both in the classroom and outside of this. We believe that this would allow students to appreciate the wide didactic potential that heritage possesses if it is established as the main focus of learning, in this case, to build historical knowledge.

Data availability

The datasets generated during the current study are not publicly available because the identities of some participants are visible, undermining privacy protection. Nevertheless, the datasets generated are available from the corresponding author upon reasonable request.

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Competing interests

The authors declare no competing interests.

Additional information

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