

Research Article

Ancient history education through project-based learning

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Abstract

The effectiveness of teaching strategies and resources that promote meaningful content learning is most pronounced when active methods such as project-based learning (PBL) are used to teach Ancient History (Molina, 2020, 53). Therefore, this study focuses on a comprehensive assessment of the methodological and historical competences acquired by students enrolled in the secondary education teacher training programme at the University of Cordoba (Spain). The research, which is non-experimental and quantitative, uses a Likert-type scale and involves the participation of 201 Masters students who have completed the course 'Learning and Teaching Social Sciences'. The results of the statistical analysis show a positive evaluation of PBL in terms of historical understanding and its effectiveness in improving historical awareness. It is crucial to emphasise the advantages of active and collaborative learning inherent in PBL. However, it is also imperative to acknowledge the challenges that students face in applying their methodological knowledge to the secondary school setting. The transition from theoretical understanding to practical implementation is a significant hurdle for many students aspiring to a career in education. These findings underline the importance of promoting the seamless integration of innovative pedagogical approaches into teacher training programmes in order to effectively address the specific challenges of teaching antiquity in an educational context. Finally, this research was made possible by the Ministry of Science and Innovation's 'Prueba de Concepto' project, funded by the European Union under grant number PDC2022-133123-I00, and also by the CLIOGEN project (GINDO-UB/187) on Ancient History.

Keywords: active method, ancient history, historical thinking, teacher training

Introduction

Current educational regulations consider PBL as an essential method in the methodological and professional training of future teachers (Molina, 2022). This model involves university students in their learning process and links the final product to work on pedagogical competences. The aim is to improve the pedagogical skills of the Masters students by solving problems, challenges, projects and thus acquiring knowledge in a motivating way to teach Ancient History. Here, didactic feedback creates a flexible, innovative, and collaborative classroom space with the concerns, interests and demands of the students in training, who are immersed in a learning space so different from a traditional classroom (see Figure 1).

In this research, discovery learning is one of the main challenges that student teachers face in the classroom. Students use evidence to analyse different perspectives and solve problems that will help them in their future teaching (Bartelds *et al.*, 2020). Participants' historical concerns are addressed through research strategies that contrast sharply with their ability to teach Roman history. Prospective secondary school teachers' knowledge of the history of

the Roman world is crucial to their training as teachers (Molina and León, 2019).

Indeed, the training in the history of the Roman world that future secondary school teachers receive varies according to the university in which they are enrolled. Therefore, the depth and specialisation with which they study, and research historical facts implies a change in the methods of educational work (Míguez and Gutiérrez, 2022). In addition, the learner selects, collects, analyses, and promotes more analytical and reflective simulated learning contexts, which reinforces their engagement with a new way of learning and teaching in a real-life context (Mursid *et al.*, 2023).

Therefore, at the beginning of an educational project, it is essential to understand the situation and educational methods of the learners in the classroom. This will enable educators to adapt their approach to best meet the needs and abilities of the learners, thus ensuring the effectiveness and relevance of the project (Basilotta *et al.*, 2017). The lack of flexibility in university teaching programmes does not allow the structuring of a class with an innovative and participatory method (Molina, 2021a). When teachers design and plan educational projects, one of the main challenges they face is their lack of didactic training. Because of these difficulties, it is true that the transmission of historical knowledge is often associated with learning by heart (Thorp and Persson, 2020).

This suggests that traditional teaching is rigid, and that a creative and dynamic approach is necessary for a proper understanding of

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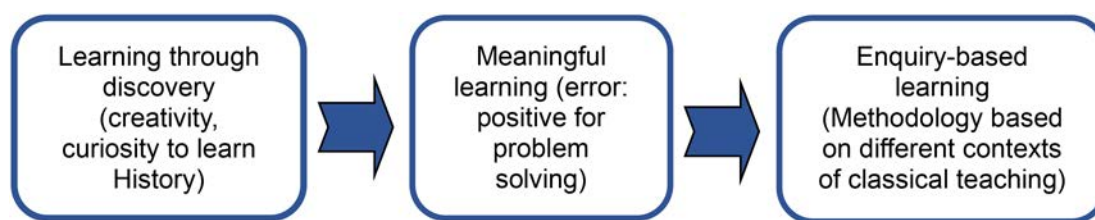


Figure 1. Conceptual framework: Project Based Learning (PBL).

history. In this case, university knowledge is not acquired through enquiry-based learning, which would enable trainee teachers to understand ancient history, understand the present and interpret the past (Macías and Ortega, 2003). Likewise, and as will be reflected in the following lines, it is necessary to develop practical thinking, research and decision making, design and application of planning, and finally the contrast between theory and practice to present students with situations that allow the application of PBL. Hence, the main objective of our research will focus on analysing the training on methodological and historical skills of students in the Masters degree in Secondary Education Teacher to learn and teach antiquity (Pagès and García, 2008).

During the pedagogical interaction in the classroom, Masters students acquire sufficient skills to work cooperatively, thus maintaining the formative capacity of future secondary school teachers with a flexible methodological change adapted to a real learning context. In this respect, professional learning requires a university education aimed at mastering different teaching skills and acquiring content. Assapun and Thummaphan (2023) say that the role of teachers is relevant to the needs of students. Therefore, their didactic training must be developed with professional skills that allow them to reflect and work with unforeseen situations in the classroom (Sáiz and López, 2015).

Research by Molina (2021b) confirms that problem-solving, autonomy in learning and the construction of the teaching and learning process involve a constant renewal of learning based on conceptual content. Therefore, the development of pedagogical practice encourages students' interest in training in active learning methods for teaching History (Barton and Levstik, 2004; Prats, 2017). In this sense, it is interesting to know the degree of implementation and diffusion of PBL in the development of teaching in the secondary Masters programme, in order to improve students' postgraduate competences. As Levin and Muchnik-Rozanov (2022) point out, PBL is an educational alternative that can complement the model based on master classes. Finally, the transformation it brings to the renewal and construction of historical knowledge can be seen as another strength of project-based teaching. The development of professional skills is an opportunity for autonomous learning (Gillies, 2016) and a more in-depth knowledge of the Roman world.

The research

From a constructivist approach, with the development of PBL, students improve their historical education to work collaboratively, solve problems during their training process and acquire didactic skills that will help them develop during the implementation of their theoretical and practical classes in educational centres (Cintang *et al.*, 2018). Thus, through the promotion of inclusion and self-directed learning, transmissive, oral methodologies are replaced with meaningful, interdisciplinary learning that meets current teaching challenges. In this way, the aim is to respond to different questions related to

constantly changing methodological situations. It is therefore important to ask the following questions:

1. Is it possible for students to interpret Ancient History without acquiring conceptual knowledge?
2. Does the educational context influence the implementation of PBL?
3. Are historical narratives motivating for students?

The research was conducted with a sample of 201 students: 108 females (53.7%) and 93 males (46.3%). They were enrolled in the course 'Learning and Teaching of Social Sciences' of the Masters programme in Compulsory Secondary Education and Baccalaureate, Vocational Training and Language Teaching. The average age of the participating students was 25 years. As far as their previous education is concerned, their main qualifications were Bachelor degrees in History (81%), Art History (11%) and Geography (8%).

The planning was based on the students' previous knowledge and historical contextualisation of Roman Corduba. To do this, they will be given a challenge to investigate throughout the project, which we have named 'This is how the Romans lived in Corduba.' The visualisation of two images of the city, which can be identified with the monumental heritage *in situ* in the current urban framework, will allow us to obtain additional information to motivate them to continue learning more about the Roman city. At the beginning of the development phase of the project, the themes worked on are related to the place where the Romans of Corduba met, to whom they prayed, where they lived, how they had fun and how they lived. Once the topics have been distributed, each group of four or five students will study the chosen topic, exchanging ideas and working together as a group. They collect all the information necessary to develop didactic models that accurately reproduce the content of the research. The design of experimental workshops allows us to create practical and participatory experiences for students to actively explore, research and use concepts. In fact, the planning of didactic workshops is very valuable to develop problem-solving and creativity in group work.

Due to the interest in this project, which allows us to work on a concrete stage of Ancient History and of our city, the students feel motivated to go on an educational journey to the Archaeological Museum of Cordoba in medium-sized groups of 20. Using the Virtimeplace APP (www.virtimeplace.com/córdoba-romana-imperial), we have a geographical location for many of the heritage elements that have been worked on in the workshops. In this way, we have created a didactic itinerary through the different places that they will know thanks to the project and that they will be able to find with the help of Virtimeplace. The visit ends in the Roman Theatre, located in the basement of the museum.

After the development of the project-based learning, a non-experimental quantitative questionnaire design was chosen for the research (Creswell and Guetterman, 2018; Tashakkori *et al.*, 2021).

This instrument allowed us to collect important information about the methodological training of Master of Education students. The survey included various questions that helped us to define the postgraduate students' perceptions of Classics teaching, as well as to explore how they can work with PBL in secondary education. The data used are part of a questionnaire consisting of 18 items on a closed 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). For the elaboration and classification of the items, works such as those of Bisquerra and Pérez-Escoda (2015) or Mills and Gay (2022) were taken into account. The questionnaire was entitled 'Opinions on the implementation of PBL and the teaching of Ancient History in secondary education' (see Figure 2).

It consisted of a first part focused on the didactic function of the PBL model in the teaching of History and a second part aimed at collecting students' opinions on the teaching of this subject in secondary education. For the design and validation of the battery of items, we relied on the recommendations of three experts from two Spanish universities with experience in initial teacher training and active learning techniques in the teaching of Classics.

The use of this tool has allowed us to investigate two key aspects. Firstly, whether project-based teaching is essential in preparing students to become future educators. Secondly, whether the teaching of Ancient History in secondary schools can provide meaningful learning experiences through historical narratives

The PBL method in History classes

1. I think that the development of PBL is necessary for initial teacher training.
 2. I believe that my methodological training has improved my training in historical skills.
 3. I consider that implementing an educational project leads to problem solving.
 4. Methodological innovation is necessary in my professional development as a teacher.
 5. I understand that skills-based work is part of my curricular training.
 6. I recognize that the teaching resources used with PBL encourage interaction between teachers and students.
 7. I believe that an innovative methodology enhances meaningful learning.
 8. I consider that the assessment of learning projects has an investigative nature.
 9. I would like the historical content to be worked on a project basis.
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Students' opinions of the teaching of Ancient History in compulsory education

10. I do not think that the content related to classical antiquity should be learned by heart.
 11. I understand that historical narratives about classical culture motivate secondary school students.
 12. I recognize that historical facts should not be taught only with a textbook.
 13. I would like Ancient History lessons to be able to interpret painful pasts and historical memory.
 14. I believe that History is based on understanding the past.
 15. I feel motivated to use ICT teaching resources in Classics teaching.
 16. I consider that teachers need to improve the way they explain how historical processes are interpreted.
 17. I think that the teaching guides do not facilitate the use of the historical method.
 18. I understand that, by interpreting current historical facts, I can improve my critical thinking in a meaningful way.
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Figure 2. Questionnaire.

(Molina, 2018). In this context, participants were asked to express their opinions on the use of innovative teaching resources to implement active learning methods in the teaching of Classical Antiquity (Husillos, 2016). Data collection took place in the classroom during regular school hours. The survey instrument was designed to be anonymous, so that students could respond voluntarily without fear of being identified.

Data and findings

For the first question on the interpretation of Ancient History, items 10, 15 and 18 were selected. For items 10 and 15, 80% and 75% of the students respectively agreed (the mean scores were 4.61 and 4.56) that the teaching of History should not be based on rote learning. This suggests that they value a more engaging and interactive approach to learning History and that teachers should improve the way they explain and interpret historical events in their masterclasses. Furthermore, the overwhelming majority (98%) recognise the importance of understanding historical facts in relation to the present. This suggests an awareness of the value of History in a contemporary context and its impact on critical and reflective thinking. University students are aware that memorising historical content doesn't allow them to analyse it and acquire active learning strategies. Overall, this highlights the need for more interactive and engaging methods of teaching History. They recognise that the reproduction of unmotivating and rote historical content does not allow them to analyse and acquire active learning strategies.

Regarding the second question, which focused on analysing the students' training to develop PBL, items 1, 6 and 8 were selected. For item 1, the results show that 74% agree that PBL has benefits for their professional development as teachers. This suggests that they recognise the value of PBL in preparing them for their future role as educators. The mean score of 4.58 indicates a moderately positive view of the impact of PBL on their development. At the same time, item 6 shows that a significant majority (83%) believe that their interaction with teachers is improved when more innovative teaching materials are used. This highlights the importance of engaging and innovative teaching methods in the educational process. The mean score of 4.68 reflects a strong positive sentiment towards the use of innovative materials. In addition, for item 8, about 85% of the students agree that the assessment of historical

content with PBL has an investigative nature. This implies that they see PBL as a method that promotes critical thinking, research, and inquiry-based learning. The mean score of 4.66 indicates a strong agreement with this perspective.

Finally, items 11 and 13 were selected to answer the third question on historical narratives. On this occasion, an impressive 85% expressed their motivation to create historical narratives. This suggests that PBL is effective in inspiring students to explore and create narratives about the past. The high mean score of 4.74 reflects a strong sense of motivation among students to engage with historical narratives. An even higher percentage, 87%, of participants agree that PBL allows them to interpret painful pasts as pedagogical elements of historical memory. This shows that there is a recognition of the potential of PBL to address sensitive historical issues in an educational context. The mean score of 4.78 indicates strong agreement with this perspective. In summary, the data suggest that students value the motivational aspects of PBL for generating historical narratives and appreciate its role in dealing with difficult or painful historical issues of Ancient History, such as the social and political reforms of the Roman emperors. They recognise the potential of PBL to enhance their historical education by engaging with narratives and sensitive historical issues. This suggests that PBL is an effective approach to teaching and learning history. The results show that they value the pedagogical benefits and didactic resources offered by PBL and appreciate how these elements enhance their History teaching.

The situation shown in the results in Figure 3 provides an overview of the graduate students' beliefs about working with PBL in a secondary school classroom. They are aware of the benefits of working with a participatory teaching methodology and can reflect on their role in the learning process. Although we acknowledge that the expository methodology still prevails in university classrooms, their perceptions show that the implementation of PBL is a crucial step towards understanding Classics teaching in a dynamic and innovative way.

On the other hand, as can be seen in Figure 4, there are differences when analysing the mean scores. In the lowest items (1 and 15) there is a clear understanding of the need for initial training of students to develop project-based learning and also the way in which historical knowledge is explained and interpreted. However, in the highest items (13 and 18) there is some evolution towards being able to interpret these historical facts and improve critical

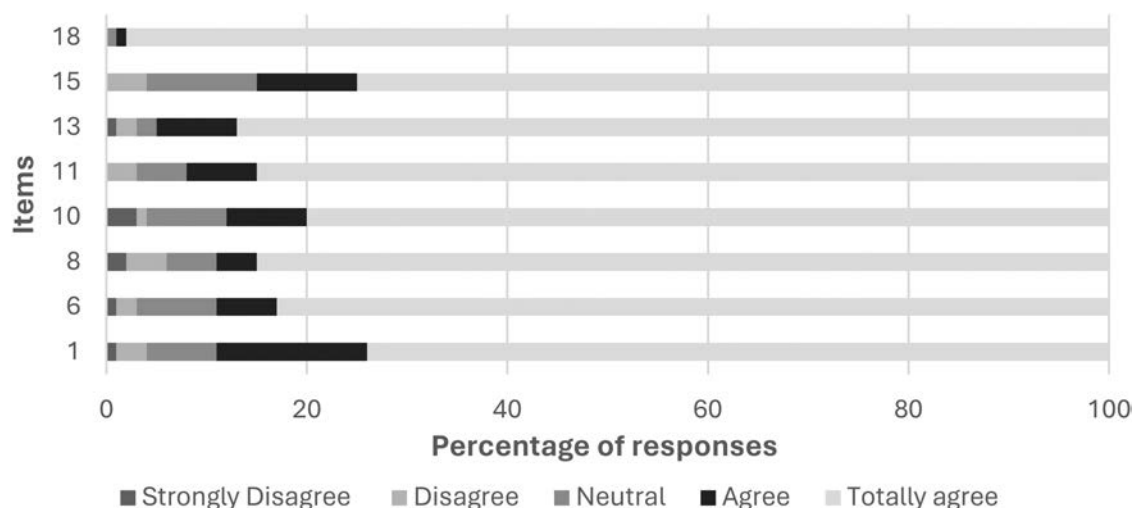


Figure 3. Quantitative comparison of the research questions.

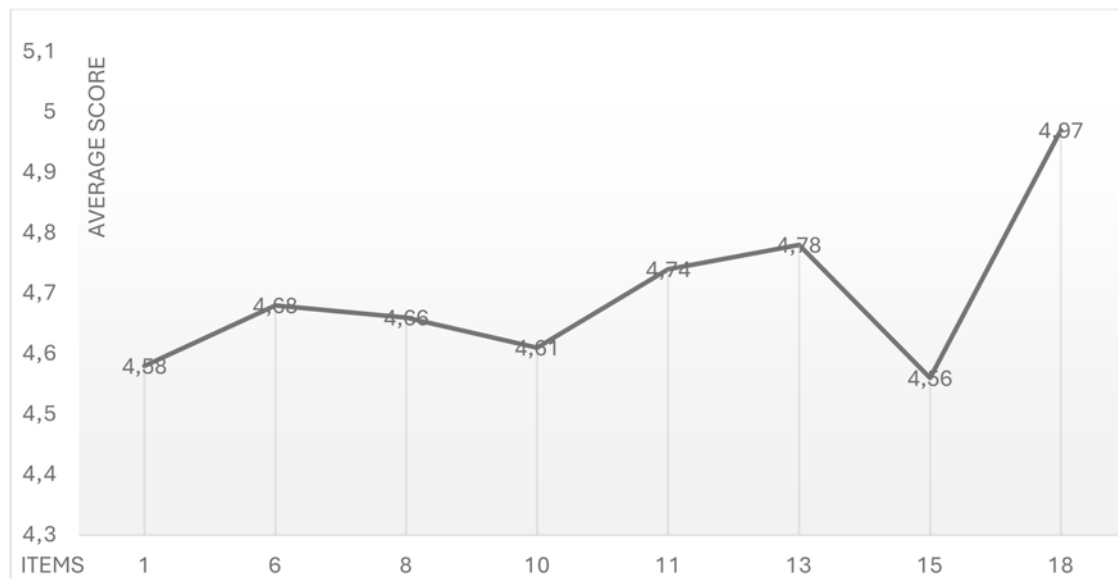


Figure 4. Average score of analysed items.

thinking through appropriate training at university level. This evolution of students' statements shows a consolidated position towards the implementation of active teaching methods, but with historical training adapted to learning situations and experiences. In summary, this analysis suggests that students increasingly recognise the value of project-based learning and the importance of teaching the history of ancient Rome in secondary schools. This understanding is consistent with the idea that active teaching methods, combined with appropriate historical training, can enhance critical thinking skills, and improve the overall quality of education (Gini-Newman and Case, 2018).

Conclusions

This study shows that students' impressions reflect their expectations of training in pedagogical skills. It highlights the clear difficulty that Masters students have in understanding historical facts without the theoretical approach of the discipline. This difficulty in approaching the teaching of Classics has implications for the development of historical thinking and awareness. In order to strengthen this competence-based knowledge, it is necessary to introduce students to research strategies. In this way, developing suggestions for improving the implementation of an active methodology (such as PBL) will have a positive impact on their competence-based education. This may include encouraging open dialogues, stimulating questions and debates and promoting collaborative learning environments to work on topics related to the urban planning of a Roman city, religious practices, private spaces, and public contexts where official ceremonies were held.

Thus, the initial training of future secondary school teachers has been visibly improved by the new active teaching methods. The use of PBL represents a real breakthrough in understanding the real problems faced by university students in learning about different aspects of Ancient History and applying them in their work as secondary school teachers. To this end, it has been achieved that the students of the Masters in Teacher Training appreciate both the active learning methods and their development to work on pedagogical competences and the content of classical culture. Although the sample is small, the data show that the students' reports provide not only useful statistical information, but also a

necessary element for understanding the impact of their teacher training on the transmission of knowledge about Roman customs.

Even though some research perceives this methodological and formative change as an obstacle to the teaching of History, it is possible to conclude that PBL encourages problem-solving and the development of professional practice skills in trainee teachers. Therefore, as a training strategy, it is advisable to create synergies between secondary schools and universities. In this process of active teaching, it is evident that the evaluation of historical content related to the teaching of Classics in secondary schools has a research approach. Likewise, the analysis of the data from this study shows that the participants value meaningful learning and the acquisition of pedagogical competences with an interdisciplinary character, combining History and pedagogy. This situation deserves methodological intervention in order to improve the teaching of Ancient History at different educational levels.

The ideas of future teachers show that Ancient History is a dynamic and interesting discipline. This research shows that the students of the Masters degree in teaching at the University of Cordoba highlight, as a positive element of project-based teaching, the motivating atmosphere of the didactic resources, which represent an important step in their curricular training. Indeed, the study and research of historical content facilitates the interpretation of narratives of the past. It also involves the ability to relate present and past events in a historical perspective. In other words, it is necessary to approach the historical past in a way that does not involve rote learning. In this way, the students' educational process would be embedded in a reality in continuous construction, based on practical evidence that can situate them historically in a past stage of history, such as the history of the Roman Empire.

Author biography

PhD in Ancient History and Professor of Social Science education.

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