Multilingual educational video production in university teacher education

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Abstract

This article investigates how the creation of multilingual educational videos can contribute to the development of key teaching competences in pre-service educators. It draws on a long-term innovation project carried out at the University of Oviedo, Spain, and partner institutions between 2018 and 2024. The Didactictac TV platform was used to facilitate the production and dissemination of over 600 short instructional videos across a wide range of subjects and languages. The project involved more than 4,000 university students and 60 lecturers and researchers from different educational fields. Data was collected through online questionnaires to explore university participants' experiences, perceptions, and learning outcomes. The findings suggest that collaborative video production fosters not only digital and artistic competences but also communicative, teamwork and pedagogical skills. Participants reported increased motivation and confidence in their ability to integrate audiovisual tools into their future teaching practice. The diversity of topics, languages and formats reflected the flexibility and scalability of the approach across contexts. The project offers a transferable model for using multilingual video creation to connect university and school communities, enhance teaching skills and promote open educational resources. This work provides insight into how shared digital platforms can bridge educational stages, support innovation in teacher education and enrich the learning experience through creative, collaborative practice.

Keywords: educational videos, teacher education, multilingualism, digital competence, collaborative learning.

Introduction

In today's increasingly complex and dynamic educational landscape, teachers are expected to develop what is known as *innovative competence*—the ability to adapt their teaching to society's evolving demands in areas such as knowledge, technology, information, communication and research (UNESCO, 2018). This competence is essential to design, implement and evaluate engaging learning experiences that nurture students' creativity (Fernández-Cruz & Rodríguez-Legendre, 2021; Rodríguez-Legendre & Fernández-Cruz, 2023; García-Sampedro et al., 2024c).

Given these broader demands, developing digital competence has become one of the most critical professional skills for today's educators (Gutiérrez-Martín et al., 2022; Ramírez-Montoya, 2017). It refers to the optimal use of information and communication technologies (ICT) to support teaching and learning (Ferdig et al., 2020), making it essential in both initial teacher education and ongoing professional development (García-Sampedro et al., 2021; García-Sampedro et al., 2024b; García & Trigueros, 2021). However, several studies highlight that current digital training often fails to meet contemporary societal needs, pointing to the need for significant changes in teacher education programmes (Fernández-Batanero et al., 2020; Gudmundsdottir & Hatlevik, 2018; Sailer et al., 2021).

Addressing these challenges requires developing not only technical skills but also strong communication, collaboration and interpersonal abilities. Teachers must be able to share and apply knowledge thoughtfully and creatively, fostering students' analytical thinking, problem-solving and effective communication in the classroom (Chirinos et al., 2020; Torralba & García-Sampedro, 2022). Faculties of education have responded by introducing educational technology modules designed to build pre-service teachers' confidence in their digital skills and enable them to create innovative, effective learning experiences for their future careers (Mazman, 2019; Engeness, 2021; Miotto et al., 2022; García-Sampedro et al.,2024d)). At the same time, there is an emphasis on promoting collaboration among teachers and students to support collaborative learning environments (Díaz-García et al., 2020; Navarro, 2017).

In addition, educational innovation must also address the cultural and artistic dimension, which is essential for comprehensive teacher preparation. As Giráldez (2007) notes, cultural and artistic competence encompasses skills that allow educators to communicate through diverse artistic forms, understand and critically appreciate cultural manifestations and respect freedom of speech and diversity. These abilities also contribute to the development of spatial intelligence, creativity, sensitivity, communication and emotional awareness (Martínez et al., 2006).

The *Multilingual Educational Video Generation in University and School Contexts project* was created precisely in response to these needs. It reflects the commitment of faculty members at the University of Oviedo's Faculty of Teacher Training and Education to strengthen both students' and teachers' artistic, digital, pedagogical, teamwork and communicative competences by promoting the creation of multilingual educational videos that encourage creativity, cooperation and inclusion across different levels and educational contexts.

Project description

The project ***Multilingual Educational Video Generation in University and School Contexts*** has its roots in a series of educational innovation initiatives. These include "Online Television in Teacher Education: A Multilingual and Multidisciplinary Resource" (PINN-18-A-022, PINN-19-B-002), "Online TV as a Shared Learning Space between University and Schools" (PINN-20-074, PIN 21-22 136684), and "Multilingual Communication and Audiovisual Arts: A Contribution to the 2030 Agenda" (PIN 22-23: 160665). All funded under the University of Oviedo Educational Innovation Projects Call.

Over six academic years, the project has continued, expanded and revitalised collaboration between the University of Oviedo, and other universities through Didactictac TV channel. This website, which operates as an online educational TV channel, was originally created during the 2018–2019 academic year using the Wixsite platform and was later migrated to its current version under the Uniovi (Universidad of Oviedo) domain. The new site is fully accessible in both Spanish and English, allowing for broader international reach.

Since its inception, the main goal has been to share and disseminate innovative practices in video format, thereby highlighting and valuing the didactic and audiovisual creations of both students and teachers. The channel continues to promote multidisciplinarity and multilingualism, as its videos include audio and subtitles in various languages. To date, the languages featured include Spanish, Asturian, Galician, English, Polish, Italian and Japanese. From a technological and artistic perspective, the project welcomes all kinds of audiovisual productions, regardless of format or design.

Didactictac TV channel responds to a persistent need to build stronger links between the university and society. It achieves this particularly through its integration within the Faculty of Teacher Training and Education and its close collaboration with local schools. It is worth emphasising that the channel showcases educational videos created by its contributors, thus acting as a bridge between academic innovation and classroom practice.

The impact of the project is evident in the creation of over 600 educational videos produced by students and lecturers at the University of Oviedo. These cover a wide range of disciplines—including English Language, Romance Philology, Art History, Experimental Sciences, Spanish Language, Asturian Language, Mathematics, Music, Social Sciences, Educational Organisation, and Visual Arts. In addition, several Spanish universities (such as University of León, Complutense University of Madrid, University of Córdoba, University of Castilla-La Mancha) and foreign universities (in Japan, Kio University and in Poland University Marie Curie Sklodowska) have contributed their own materials.

Objectives of the Project

The objectives of the project were aligned with three key priority areas defined in the University of Oviedo's innovation strategy. These aims focused on consolidating and expanding the Didactictac TV channel as a shared educational platform. Additionally, they sought to foster artistic, digital, pedagogical, teamwork, and communicative competences, as well as to promote linguistic diversity and inclusive practices in teacher education. The table below summarises the main goals of the initiative, organised according to these institutional priorities.

Innovation in Teaching Methodology:

- Consolidate, expand and promote Didactictac TV channel as a platform for sharing content not only within the University of Oviedo but also across other national and international universities and partner schools.
- Develop students' oral and written communicative competence.
- Encourage the use of mother tongues and additional languages.
- Share, exchange and showcase the educational videos produced by students and teachers.
- Develop pre-service teachers' professional skills through designing videos and creating channels.

Innovation in Equality, Diversity, and Entrepreneurship:

- Promote the creation and dissemination of multidisciplinary educational videos that address intercultural understanding, gender equality, attention to diversity and service learning.

Innovation through interdisciplinary collaboration networks

- Foster cooperation among students and teachers from different departments and disciplines within participating universities and collaborating schools to develop educational innovation networks.

Project Phases

The sequence of tasks carried out in each undergraduate or master's course involved in the project followed a structured progression:

- Initial diagnosis by lecturers of students' attitudes towards proposed methodologies, ICT usage, project expectations, television, and mobile learning (m-learning).
- Selection of the working methodology and organisation of activities, adapted to each discipline's nature and content.
- Design and production of educational videos by students.
- Viewing and evaluation of videos by both students and lecturers.
- Creation of YouTube channels (by lecturers and/or students) to host the audiovisual products.

- Evaluation of project design and implementation, as well as participants' perceptions of learning and satisfaction. Data was collected via an online questionnaire and discussion groups, yielding both quantitative and qualitative insights.

Description of TV Website

Didactictac TV platform was designed as the project's main website. It serves as an index that connects to the various YouTube channels associated with the initiative, while remaining independent from YouTube itself. The portal is available at: https://www.unioviedo.es/didactictac-tv/index.php/es/inicio/.

The site was developed to guide users through the content created by students and teachers, directing them hierarchically from the main project page to subpages corresponding to participating schools, subject areas and individual courses. Screenshots of the portal interface are provided in Figure 1.

From the top navigation bar of the website, users can access four main sections grouped by the source of the video channels: Home, University of Oviedo, Other Universities, and Schools and Educational Centres. This structure is designed to accommodate different educational stages and teaching methodologies.

Within the University of Oviedo section, users can navigate through various academic areas. Each area page includes images and links to specific courses participating in the project, making it easier to explore and locate targeted resources.

The Other Universities section features student productions from universities in Spain and abroad. Meanwhile, the Schools and Educational Centres section houses videos produced in non-university settings, including Early Childhood Education, Primary Education, Secondary Education and Vocational Training.

During the past academic year, a total of 1,158 students from the University of Oviedo took part in the project in 17 different courses, guided by 22 faculty members. In addition, 44 teachers from various primary and secondary schools were involved. Moreover, 160 pupils from these schools participated directly in the project during of the year.

Method

To evaluate the project's design, implementation, and its contribution to the development of key teaching competences – artistic, digital, pedagogical, teamwork, and communicative –two specific objectives were established: (1) to assess students' satisfaction with the methodology and its implementation, and (2) to analyse its perceived impact on the development of the aforementioned competences.

Data Collection Instrument

The instrument used in this study was a structured questionnaire specifically designed for the project. Developed collaboratively by university and school educators, it was informed by relevant academic literature and aligned with the project's objectives. To ensure the clarity and relevance of the items, a panel of seven experts from the participating institutions conducted a validation review prior to its implementation.

The final version included a demographic section and seven thematic sections addressing student satisfaction and six key areas of competence: artistic, digital, pedagogical, teamwork, and communicative skills (with separate items for oral and written expression).

Responses were recorded on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Table1. *Blocks and items included in the analysis.*

Satisfaction
My expectations regarding the task have been met.
It has contributed to increasing my interest in the subject.
It has helped to complete my training as a teacher.
I feel capable of implementing these tasks as a teacher.
I consider it useful to implement these types of tasks among students.
I would recommend maintaining this activity for the next course.
I would like to carry out more tasks of this type.
It has awakened my interest in the use of ICTs in the classroom.
Artistic Competence
Understanding artistic language as a means of expression
Creating personal artistic products
Understanding the aesthetic value in audiovisual communication
Appreciating artistic expression as a form of intercultural dialogue
Developing aesthetic and expressive abilities
Learning to use non-verbal communication tools
Learning to use ICT to integrate verbal and non-verbal communication across disciplines
Critically reflecting on the content explored
Digital Competence
Using technological tools (e.g., smartphones, tablets)
Using the Internet for information
Using the Internet to create content
Creating videos
Using photo and video editing applications
Creating a YouTube channel
Using technology to convey artistic values
Using technology to foster a critical perspective

Pedagogical Competence

Tasks carried out
Multilingual and artistic content
Values and multicultural content
Methodology implemented
Mobile technologies used
Time organisation
Use of space
Final product (videos)

Teamwork competence
Planning task distribution
Assuming assigned roles
Fulfilment of assigned tasks
Expressing own opinions
Valueing my colleagues' opinions
Solving problems
Reaching group goals
Sharing group achievements and difficulties

Communicative competence – speaking (5 items)
Express to what extent the project has improved your communicative speaking competence valueing: 1- very little
adequate and 5-very adequate.
Being aware of the communicative situation
Planning the script process
Expressing oneself clearly and adequately
Respecting socio-communicative rules
Using effective communicative strategies

Communicative competence – writing (5 items)
Express to what extent the project has improved your written communicative competence valueing: 1- very little
adequate and 5-very adequate.
Being aware of the communicative situation
Planning the script process
Expressing oneself clearly and correctly
Respecting socio-communicative rules
Using effective communicative strategies

Sample

Although more than 4,000 students participated in the project, only 1,521 students enrolled in various courses completed the questionnaires. The courses areas involved were the: Linguistic, Experimental Sciences, Mathematics, History of Art, Music, Arts and School organisations areas.

Results

Below are the main findings from the questionnaires completed by university students participating in the project. Overall, the results indicate a moderately high level of satisfaction with the initiative, with particularly positive ratings for items related to the perceived usefulness of the activity, the confidence gained to implement similar tasks as future teachers, and the recommendation to continue offering this activity in future academic years.

In terms of students' perception of the task, they reported particularly positive evaluations for the quality of the products they created, the proposed work dynamics and the use of mobile technologies. However, certain aspects were identified as areas for improvement, such as the suitability of the available spaces and the integration of values education content. Even so, these items still achieved mean scores above 3.5 on the scale used.

The analysis of specific scales assessing the project's contribution to developing teaching competences revealed generally high ratings. When examined by competency dimension, teamwork competence emerged as the highest-rated, followed by artistic competence, digital competence, and finally, communicative competence.

In terms of digital competence, the results indicate a moderately high level of perceived competence, with items such as video creation and the use of mobile tools receiving average scores above 4. The lowest-rated item within this dimension was the creation of a YouTube channel, suggesting a potential area for improvement in training.

Regarding communicative competence, the data indicate a generally positive perception, although some differences emerged among its components: items related to oral language received higher scores than those addressing written language. The most highly rated aspects include the ability to express oneself clearly and correctly and adherence to socio-communicative norms, while lower scores were given for taking into account the specific features of the project as a communicative context.

Teamwork competence was the highest-rated dimension overall, with mean scores greater than 4 for all items. The most valued aspect for students was the importance they placed on their peers' opinions, while he lowest-rated item was planning the distribution of tasks.

Finally, artistic competence received moderately high ratings. The highest-scoring items included understanding the importance of aesthetic value in audiovisual communication. They also covered learning to use technology to support interdisciplinary work on verbal and non-verbal communication. Conversely, lower ratings were given to items related to understanding artistic language as a means of expression and appreciating artistic expression as a form of intercultural dialogue.

Discussion and Conclusion

The results of this study highlight the importance of integrating the production of educational videos into initial teacher education as a strategy to effectively support the development of key professional competences. In increasingly diverse educational contexts – face-to-face, online and hybrid – it is essential for future teachers to develop the ability to design, produce and use videos as regular teaching resources (Starkey, 2020).

This approach promotes the development of digital, communicative, collaborative and artistic skills, while fostering creativity, student autonomy and critical reflection (Zhang et al., 2006). Prior research has shown that engaging university students in the creation of instructional videos has proven effective across numerous disciplines, enhancing not only conceptual and procedural knowledge but also overall learning outcomes (Curran et al., 2020; Epps et al., 2021; Gallardo-Williams, 2020; García et al., 2022; Hawley & Allen, 2018; Jordan et al., 2016; Orús et al., 2016; Pereira et al., 2014).

In this study, pre-service teachers perceived the experience as a valuable opportunity to strengthen their professional competences (García-Sampedro et al., 2024a). This finding is consistent with studies like Pereira et al. (2014), which showed that self-produced videos helped students develop both curricular and transversal skills. Moreover, recent systematic reviews support these perceptions with evidence from other educational settings (Epps et al., 2021; Del Valle-Ramón et al., 2020).

Among the competences addressed, collaborative competence emerged as the most valued by students. Working in teams, taking on different roles and interacting with peers were especially appreciated, as they supported opinion sharing, active listening and the co-construction of solutions (González & Dignasao, 2020). This collaborative dimension is widely recognised as a fundamental component of educational innovation, particularly in settings that encourage active and meaningful learning.

Digital competence was also highly valued. The process of designing and producing videos required participants to use mobile tools, manage content and explore platforms such as YouTube. This help consolidate digital skills essential for the effective pedagogical use of technology (Falloon, 2020; Sailer et al., 2021; Flores-Tena et al., 2021). Students positively recognised this component, noting its role in developing a critical and up-to-date digital competence (Fernández-Cruz & Rodríguez-Legendre, 2022; Ramírez-Montoya, 2017; Torralba-Burrial & García-Sampedro, 2022).

Regarding communicative competence, video production activities enabled pre-service teachers to express themselves more clearly, especially in oral communication (Guzmán-Simón, 2020; Tursunovich, 2023). As for artistic competence, students recognised the importance of aesthetic value in audiovisual communication and the role of visual language and creativity as pedagogical resources (Tajiev, 2023).

Finally, it is worth noting the limitations of this study, which also point to potential directions for future research. A key limitation is the exclusive focus on university students. Expanding the analysis to include teacher educators, as well as students and teachers from participating schools, would provide a more comprehensive understanding of the methodology's impact. It would also offer valuable insights into the implementation of the web portal. Such an approach would help capture the perceptions of all stakeholders involved, facilitating the refining of future iterations of the project.

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