

## Influence of Social Networks on University Education

M. Ángeles Fuentes Domínguez, Antonio J. Martínez Martínez  
*University of Huelva, Spain*

---

### Abstract

Social networks have become powerful educational tools, significantly influencing communication, collaboration, and learning resource accessibility. Platforms such as Instagram, Facebook, Twitter, and YouTube enhance classroom interaction, facilitate global connections, and support collaborative learning beyond geographical and temporal limits. This study analyses the impact of Instagram as an educational complement within a Chemistry course at the University of Huelva, employing quantitative methods to compare two instructional modalities, traditional teaching and teaching supported by Instagram. Results from student questionnaires indicate a positive influence, with notably higher satisfaction (87%) and improved motivation in groups using Instagram-supported instruction. These findings highlight the value of integrating familiar social platforms into university education to enrich students' engagement and overall learning experience.

*Keywords: Social media, higher education, student engagement, communication, Instagram.*

---

## Influencia de las Redes Sociales en la Educación Universitaria

### Resumen

Las redes sociales se han convertido en herramientas educativas eficaces, impactando notablemente en la comunicación, colaboración y el acceso a recursos educativos. Plataformas como Instagram, Facebook, Twitter y YouTube fomentan la interacción en clase, facilitan conexiones globales y apoyan el aprendizaje colaborativo más allá de límites geográficos y temporales. Este estudio analiza la influencia de Instagram como herramienta complementaria en una asignatura de Química en la Universidad de Huelva, utilizando métodos cuantitativos para comparar dos modalidades docentes: enseñanza tradicional y enseñanza apoyada en Instagram. Los resultados obtenidos mediante cuestionarios reflejan una influencia positiva, mostrando mayor satisfacción (87%) y motivación en grupos con enseñanza respaldada por Instagram. Estos hallazgos subrayan la importancia de integrar plataformas sociales conocidas en la educación universitaria para enriquecer el compromiso y la experiencia educativa del alumnado.

*Palabras clave: Redes sociales, educación superior, compromiso estudiantil, comunicación, Instagram.*

---

## Introduction

Social networks are increasingly prevalent in contemporary society, [Gursoy et al., 2023; Loos et al., 2024; Mark et al., 2023], particularly among younger demographics, becoming integral to various aspects of daily life [West et al., 2024]. Their application extends into education, where they offer numerous benefits such as enhanced communication, collaborative learning opportunities, and broader access to diverse educational resources. Platforms including Instagram, Facebook, Twitter, and YouTube provide valuable tools for educators and students, enabling more dynamic and interactive teaching methods.

Recent surveys, such as those conducted by the Spanish Foundation for Science and Technology (FECYT, 2022), highlight a growing societal interest in science and technology, underscoring the importance of effectively incorporating digital media into educational contexts. This integration not only supports academic achievement but also helps students develop essential digital competencies critical for their professional futures.

Previous comparative studies [Lema-Moreira et al., 2024]. indicate consistent use and perceptions of social networks among university students across different cultural contexts, affirming the universal educational potential of these platforms. Among available platforms, Instagram stands out for its visually engaging nature and strong popularity among students, positioning it as an effective pedagogical tool in university education.

Amongst the social networks, Instagram was chosen to develop this study about its influence in at the University, (Figure 1). Instagram is a popular social media platform with a free photo and video sharing application, where the people can view, comment and like posts.



Figure 1. Some social networks

This study specifically examines Instagram's educational influence within an introductory Chemistry course at the University of Huelva, exploring its impact on student motivation, engagement, and satisfaction compared to traditional teaching methods

## Methodology

### *Participants (students)*

This study was conducted with 41 students enrolled in an introductory Chemistry course at the University of Huelva, Spain. Participants came from diverse academic programs, primarily Environmental Sciences and Geology.

### *Analysis of the data of this study*

Data were collected through questionnaires and the use of the Achievement Motivation Scale (AMS) [Boak 2024]. Success rates were measured using exam results and performance in exercises throughout the course. Data analysis was carried out using software programs such as SPSS and Origin.

## Results and discussion

This study aimed to assess the role of social networks, specifically Instagram, as complementary tools in university-level education. Instagram, known for sharing visual content such as photos and videos, was integrated into a foundational Chemistry course to enhance student engagement through activities encompassing speaking, reading, writing, and listening.

The course content included fundamental topics such as atomic structure, periodicity, chemical bonding, states of matter, solutions, gases, and chemical thermodynamics. With a total load of 9 ECTS credits, the course combined lectures, problem-solving exercises, and introductory laboratory sessions.

Student performance data were collected and statistically analyzed to determine differences between traditional and Instagram-supported teaching methods. Results indicated significantly higher levels of student satisfaction (87%) and motivation when instruction was complemented by Instagram (Table 1, Figure 2). These findings suggest that incorporating familiar social media platforms into university courses can positively influence students' motivation and enhance their overall learning experience.

Table 1. Comparison of teaching modes for a Chemistry subject

|                                 | Filing rate (%) | Satisfaction rate (%) |
|---------------------------------|-----------------|-----------------------|
| Teaching supported by Instagram | 85 %            | 87 %                  |
| Standard teaching               | 83 %            | 80 %                  |

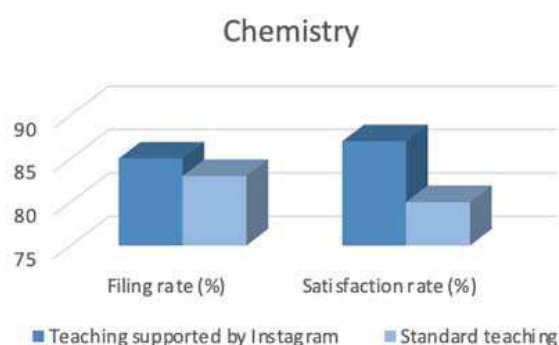


Figure 2. Comparison of teaching modes for a Chemistry subject

## Conclusion

This study demonstrates the educational effectiveness of incorporating Instagram into university teaching, particularly within Chemistry courses. Students reported that using a familiar social

media platform significantly increased their motivation, satisfaction, and engagement. Instagram allowed instructors to enhance interactions, share relevant academic content, and connect classroom learning with students' daily digital habits. Consequently, leveraging social networks like Instagram emerges as a beneficial strategy to enrich traditional teaching methods and foster a more interactive and stimulating educational environment at the university level.

## Acknowledgements

The authors gratefully acknowledge the support provided by the Vice-Rectorate for Innovation and Employability of the University of Huelva. This research forms part of the educational innovation project "2D and 3D Molecular Simulations to Promote Learning in Inorganic Chemistry" funded under the "Convocatoria de Proyectos de Innovación Docente e Investigación Educativa 2024/2025".

## References

- Boak, G. (2024). Managing the emotional complexities of action learning. *Action Learning: Research and Practice*, 21 (2), 127–128.
- FECYT (2022). Evolución de la percepción social de la ciencia y la tecnología en España. <https://www.fecyt.es/lo-que-hacemos/cultura-cientifica/estudios-percepcion-social-de-la-ciencia>
- Gursoy, B. E., Oner Ozkan, B. (2023). Social networking sites and relationship social comparison: Effect of relational and individual factors. *Online Journal of Communication and Media Technologies*, 13(1), e202308.
- Lema-Moreira, E., Ramos-Monsivais, C. L., Río-Urenda, S. (2024). Knowledge and use of social networks in University students from Mexico and Spain. *Eur. J. Educ. Res.* 13(4), 1805 – 1819.
- Loos, E., Ivan, L. (2024). Not only people are getting old, the new media are too: Technology generations and the changes in new media use. *New Media Soc.*, 26(6), 3588–3613.
- Mark, J., Rice, L., Punyanunt-Carter, N. M., Snidman, H. R. (2023). Motivations for Instagram use: Personal validation and enhancing close relationships. *Online J. Commun. Medi.*, 13(2), e202315.
- West, M., Rice, S., Vella-Brodrick, D. (2024). Exploring the "social" in social media: adolescent relatedness—thwarted and supported. *J. Adolesc. Res.*, 39(3), 539-570.