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Abstract

This study explores the educational potential of the service-learning (SL) methodology and the use of social media (SM), particularly Instagram, in higher education. The research is based on the experiences of nearly 300 university students in education programs from the University of Jaén (Spain), who participated in SL projects supported by SM platforms. Using a quantitative methodology with a descriptive-comparative approach, this study analyzes the impact of SL on key educational dimensions. The findings demonstrate that SL significantly enhances student motivation, active participation, and awareness of social issues, while SM plays a crucial role in amplifying the impact and visibility of these projects. The results highlight Instagram as a valuable tool for communication, dissemination, and interaction among students, faculty, and the broader community. Students reported that integrating SM into SL projects improved their ability to share ideas, collaborate with peers, and receive real-time feedback from instructors. Moreover, the combination of SL and digital platforms fosters creativity and innovation, preparing future educators to incorporate technology into their teaching practices. Overall, the research confirms that SL is an effective pedagogical approach for developing professional and civic competencies. Additionally, the integration of SM enhances the learning experience by making it more dynamic and interactive.

Keywords: *service-learning, social media, educational innovation, higher education, social engagement, social media*

Instagram como herramienta de apoyo para el desarrollo de proyectos educativos de aprendizaje-servicio

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Resumen

Este estudio explora el potencial educativo de la metodología del Aprendizaje-Servicio (ApS) y el uso de las redes sociales (RRSS), en particular Instagram, en la educación superior. La investigación se basa en las experiencias de casi 300 estudiantes universitarios de programas educativos que participaron en proyectos de ApS apoyados por plataformas de RRSS. Utilizando una metodología cuantitativa con un enfoque descriptivo-comparativo, el estudio analiza el impacto del ApS en dimensiones educativas clave. Los resultados demuestran que el ApS mejora significativamente la motivación de los estudiantes, su participación activa y su concienciación sobre las cuestiones sociales, mientras que las RRSS desempeñan un papel crucial en la amplificación del impacto y la visibilidad de estos proyectos. Los resultados destacan Instagram como una herramienta valiosa para la comunicación, la difusión y la interacción entre los estudiantes, el profesorado y la comunidad en general. Los estudiantes informaron que la integración de las RRSS en los proyectos de ApS mejoró su capacidad para compartir ideas, colaborar con sus compañeros y recibir comentarios en tiempo real de los instructores. Además, la combinación del ApS y las plataformas digitales fomenta la creatividad y la innovación, preparando a los futuros educadores para incorporar la tecnología en sus prácticas docentes. En general, la investigación confirma que el ApS es un enfoque pedagógico eficaz para desarrollar competencias profesionales y cívicas. Además, la integración de las RRSS mejora la experiencia de aprendizaje al hacerla más dinámica e interactiva.

Palabras clave: *aprendizaje-servicio, redes sociales, innovación educativa, educación superior, compromiso social*

*Editors' Note: Translation provided by **the authors**.*

Introduction

The COVID-19 pandemic has undeniably triggered a profound crisis across various sectors of society, with education and its institutions being particularly affected (Negro-Duque et al., 2021). In response, an increasing number of universities are embracing active methodologies to drive innovation in their educational approaches. Consequently, numerous higher education institutions have, in recent years, adopted the service-learning (SL) methodology to foster more participatory and collaborative teaching–learning processes (Díaz-Pareja et al., 2021). This shift reflects their awareness of ongoing societal and labor market changes, as well as the need to adapt and provide effective responses to the challenges and demands posed by today’s society.

SL is not a fixed term or construct but rather an evolving concept due to constant conceptual and social transformations, but it can be characterized by three key elements (Calvo, 2020): student participation, institutional organization of the curricular experience, and community cooperation. Based on this, SL can be defined as a methodology that combines theoretical knowledge acquisition with community service, linking participation in community services with the learning of values and curricular content while developing competencies through a comprehensive approach (Puig et al., 2011). When compared with other active methodologies, SL possesses certain characteristics that provide it with added value (Gezuraga & García, 2020):

- Student interaction with their immediate environment is essential. The ability to engage in practical experiences and firsthand encounters with different situations provides students with a much more realistic and closer understanding of their community’s needs and challenges. The integration of virtual learning environments into these experiences is having a very positive impact, and online SL is increasingly offering more possibilities (Dapena et al., 2022).
- It is a process that requires reflection to give meaning to the activity. Each step and phase must be critically and responsibly analyzed to provide appropriate responses and generate effective proposals.
- This methodology fosters a positive attitude toward learning among students, as it encourages active participation and commitment.
- Teachers play an active role throughout the process; they are not mere spectators. Educators guide and support students, engaging in each service or project, motivating them, fostering connections with the community and peers, and creating an environment of communication and collaboration.
- The social and community impact of this methodology leads to social transformation. Without this component, SL would lose its meaning, as its ultimate goal is to contribute to improving social reality.

All of this is supported by various studies on the effects of SL on university students, which demonstrates that this methodology significantly improves not only academic performance but also interpersonal skills, self-efficacy, and social and civic engagement (Astin et al., 2000; Billig, 2000; Díaz-Pareja et al., 2021; NYLC, 2004; Pereira & Arriaga, 2019). Moreover, students are more likely to continue participating in service activities after having used this methodology in their university education. They develop greater awareness of social issues and show concern for the situation of vulnerable populations (Cámara-Estrella et al., 2017; Sanchez, 2021).

However, SL goes beyond being just a methodology with researchable and evaluable results; it can be considered a pedagogical approach whose philosophy is essential in higher education (Izquierdo-Montero & García-Gutiérrez, 2021).

SM as Support for SL: The Use of Instagram

According to the OECD (2021), the situation brought about by COVID-19 has made it more essential than ever to maintain student engagement and motivation toward learning. Additionally, it has highlighted the importance of acquiring and developing skills that enable students to adapt to changing and complex environments, both personally and professionally (Maluenda-Albornoz et al., 2022). To address this new reality, one of the OECD’s recommendations is to leverage the potential of technology. Information and

communication technologies (ICT) refer to technologies that provide access to communication through devices or applications, such as mobile phones, networks, videoconferencing, or satellite systems (Ogbomo & Obiora, 2011). However, they are more than just these technologies; they are now even considered a public service (Brunetti et al., 2020), which is why they have become fundamental in different areas of our lives: education, work, research, and so on.

Although the use of ICT in education is already well established, it is only in recent years that SM has emerged as a key tool in this context, increasingly being used as a support mechanism in higher education (Meşe & Aydın, 2019; Suprpto & Rosmala, 2012; Tess, 2013). In this sense, Tosun (2018) highlights some of the most common uses of social media (SM) in education, such as educational institution pages on SM and platforms used for massive open online courses.

When used appropriately, SM can be an effective educational tool that offers new learning opportunities and enhances communication, active participation, and interaction between people and communities. These are key elements in the construction and development of knowledge, meaning, and mental transformation (Schrader, 2015). Learning theories such as social constructivism, activity theory, and cognitive development support their use (Ignacimuthu & Vijaya Kumar, 2020) and demonstrate that they can benefit both formal and informal learning.

Despite certain challenges associated with SM, Trujillo et al. (2015) argued that the ability to collaborate online and share joint projects has made classroom dynamics significantly more engaging, interactive, and meaningful for students. Furthermore, SM has fostered a digital culture where producers and consumers frequently switch roles (Mena-Young, 2022), making it a valuable tool with multiple possibilities in the educational field.

From this perspective, the use of SM in the classroom presents several advantages that should not be overlooked (Buxarrais, 2016): (a) It facilitates knowledge transmission and collaboration while simultaneously developing essential digital skills for today's world, (b) it promotes teamwork and collaboration skills, (c) it increases student interest in course-related topics by requiring active participation, (d) it provides opportunities to develop civic and ethical competencies, (e) it fosters autonomy in searching for and selecting information and complementary materials for various subjects, and (f) it serves as an interactive tool that encourages dialogue and cooperation.

Specifically, the integration of Instagram into university classrooms—one of the most widely used platforms among young people (Romero et al., 2019)—has facilitated the development of skills related to digital content creation and editing, image analysis and dissemination, and communication, all within a familiar and engaging environment for students (Ruiz-San Miguel et al., 2020). Platforms like Instagram allow users to creatively share interests and content, primarily through visually appealing images that capture attention (Kuz, 2022). Moreover, they are used not only for entertainment or advertising but also as social tools that provide instant access to current information (Voorveld et al., 2018). The ability for students to actively participate in content creation, rather than being passive consumers, adds significant educational value to the use of these platforms (Byrd & Denney, 2018). Similarly, Instagram enables students to establish cooperative and collaborative spaces that complement the traditional classroom setting and facilitate face-to-face learning (Erarslan, 2019).

However, simply using or being exposed to SM does not necessarily ensure its proper use or guarantee that students possess adequate digital literacy skills (Rodicio-García et al., 2020). Therefore, a well-structured and organized learning environment must be provided to ensure meaningful learning outcomes. As Opazo et al. (2016) suggested, SM can serve educational purposes when integrated into methodologies like SL, which aims to enhance social reality and civic engagement while simultaneously fostering students' academic and professional competencies. The focus should be on provoking transformative learning, as defined by Mezirow (2003), rather than simply accumulating content or skills. This shift in focus has the potential to modify students' frames of reference, perspectives, beliefs, and values to make them more flexible and inclusive. This will help them to generate new frameworks for guiding their actions that are more valid and better justified and avoid biases or immovable positions. Similarly, when students critically reflect on their role as community members (Hoggan-Kloubert &

Mabrey, 2022), they develop a sense of responsibility and become action-oriented citizens who are concerned with justice.

In this sense, SM can facilitate this transformative process by providing opportunities to share information, give vulnerable groups a voice, and promote democratic participation (Saeed & Hernandez, 2023). Therefore, SL initiatives and projects, which have traditionally been conducted in person, must embrace digital technologies. These technologies not only facilitate the implementation of such projects but also promote networked learning, which requires hands-on experimentation with digital tools (Ruiz-Corbella & García-Gutiérrez, 2020). Similarly, Bringle and Clayton (2020) analyze the potential of integrating digital scenarios into SL experiences. They conclude that, if designed and implemented appropriately, these can enrich educational experiences. The case study presented by García-Gutiérrez et al. (2017) on a virtual SL program highlights the new avenues of communication, participation, and training offered by technologies, specifically virtual scenarios, as well as the benefits they bring to the development of digital competence, ethical competence, and civic engagement. Specifically, Aykırı's (2023) study revealed that future teachers prefer electronic/virtual SL to traditional SL. They believe that electronic/virtual SL increases their digital skills, reinforces a sense of community, and facilitates the involvement and engagement of individuals and groups who are unable to participate in person due to personal circumstances.

Although prior research has examined the benefits of SL in teacher education, fewer studies have explored the role of SM as a pedagogical tool within SL experiences, particularly in higher education contexts. Thus, Moeller and Nagy (2013) examined the outcomes of a SL project designed to foster intercultural relations via SM among prospective educators in the United States. Their findings confirmed the acquisition of knowledge regarding diversity and its positive impact on participants. Meanwhile, Hakim et al. (2020) used SM platforms such as Instagram to raise awareness of, and promote the outcomes of, five community service programs developed by Indonesian university students, thereby demonstrating the success of their implementation. In their study, Italiano and Ramírez (2023) also highlight the benefits of SM in promoting community participation and interaction, disseminating relevant initiatives and information, and influencing the implementation of concrete changes and measures.

While some contributions have highlighted the potential of SM for civic engagement, identity construction, and digital communication, there is still limited empirical evidence on how these platforms influence student learning processes and outcomes when integrated into structured SL projects. This study seeks to address that gap by analyzing how the combined use of SL and SM contributes to the development of digital, civic, and reflective competencies in future educators. From this theoretical foundation, the following research questions are proposed: How do students perceive the impact of SL projects mediated by SM (Instagram) across key educational dimensions such as motivation, collaboration, creativity, and social engagement? Are there significant differences in students' perceptions based on their academic program or prior experience with SL or SM?

By addressing these questions, this study aims to contribute to the broader conversation on innovation in higher education, offering empirical insights into the design of pedagogical practices that respond to digital transformation and promote socially engaged teacher training.

Method

The main objective of our study is to analyze future teachers' perceptions of SM (specifically Instagram) and SL as facilitators in achieving strategies related to information searching, information exchange, communication, feedback, and other key aspects. In order to achieve this objective, a quantitative methodology is used with a descriptive-comparative method and a survey design. In this way, an evaluation is carried out that allows us to understand students' perceptions of the effects of training in these two areas.

This study adhered to ethical principles and standards for research conduct, ensuring compliance with ethical guidelines throughout the entire process.

Participants

The study was conducted with 299 students from the bachelor's degrees in primary education ($N = 65$), early childhood education ($N = 126$), and social education ($N = 108$) at the University of Jaén (Spain). The sampling method employed was nonprobabilistic convenience sampling, recruiting all students enrolled in the participating education programs and classrooms. While this approach limits the generalizability of the findings beyond this specific institutional context, the inclusion of entire classes mitigates potential individual self-selection bias. Furthermore, as the participants are university students in education degrees, their digital literacy skills are assumed to be relatively homogeneous, given that the mastery of ICT is an essential component of their professional training. The questionnaire was administered to students online via a Google Form, ensuring their anonymity and confidentiality at all times, as no names or personally identifying information were collected. The study protocol has been approved by the Ethics Committee of the University of Jaén.

All students participated voluntarily as part of the courses of school organization: time, spaces, media, and resources (Information and Communication Technologies section—second year of Primary and Early Childhood Education) and socioeducational projects in childhood and youth and design of technological resources (fourth and second year of Social Education). They engaged in practical activities using the SL methodology and SM (specifically Instagram) to disseminate the process and results of their curricular practices.

To implement these curricular practices through SL methodology, work teams of approximately five students were formed within each course, resulting in a total of 51 groups distributed as follows: 19 in primary education, 20 in early childhood education, and 12 in social education. Based on a prior analysis of social environment needs conducted within each course, three major challenges were identified: art for all (planning workshops and audiovisual projects on various artistic expressions); social awareness (awareness campaigns on environmental issues, recycling, noise pollution, etc.); and inclusive and accessible neighborhoods (initiatives to promote inclusion and diversity in local communities).

Each student subgroup, following the SL methodology, designed microservices aimed at providing creative solutions to the identified challenges. As previously mentioned, SL combines learning opportunities within different courses while offering a service to the community. Therefore, the approach to each project varied depending on the course. In the ICT and technological resource design courses, students developed digital tools for the selected target groups (videos, audiovisual materials, and multimedia content aimed at addressing diversity in the classroom. These materials were codesigned with a local school to ensure they met real needs and were later implemented during teaching practice sessions), while in socioeducational projects, they created awareness and sensitization microprojects for the service recipients. (For instance, students on the social education degree course collaborated with the NGO Secretariado Gitano to raise awareness and combat stereotypes about the Romani community. They created digital campaigns on SM platforms, sharing testimonies, educational content, and awareness messages. These received positive engagement and were later shared by the organization on its official channels.)

Additionally, all student groups used SM as a means of disseminating results, as well as a strategy for presenting and monitoring their work, allowing peers and instructors to follow the progress and planning process of each project.

Data Collection Instrument

For data collection, an ad hoc evaluation scale was used, consisting of 36 items organized into eight dimensions. The first dimension gathers identification data (gender, age, and degree program) as well as information on students' previous experiences with these courses or methodologies (whether they had repeated the course, whether they had previously used SL in other courses, and whether they had previously used SM in other courses). In total, this would account for 6 out of the 36 items. To provide a clear overview of the measurement instrument, the dimensions used for the quantitative assessment are detailed in Table 1, showing the number of items associated with each specific construct. The dimensions used for the

development of the questionnaire were derived from the literature, focusing on the areas where both SL and SM exert the greatest impact.

Table 1.

Instrument Structure and Item Distribution by Dimension

Dimension (construct)	Key concept/description	No. of items
Motivation	Assesses students' motivation for engaging in the practical activities and their enthusiasm for learning new resources and applications	3
Engagement	Measured across different areas, including engagement in connecting, participation, achieving learning objectives, and group work involvement	8
Creativity	Focuses on students' creative resources, such as seeking inspiration sources, exploring diverse responses, thinking differently, and using various tools	5
Communication	Analyzes key interactions during the teaching–learning process, including those within the class group, among group members, and between students and instructors	5
Monitoring	Examines aspects related to teacher follow-up with students, evaluating aspects such as guidance, encouragement, feedback, teacher supervision, and support	3
Dissemination	Focuses on changes in how students share their own projects, specifically in terms of publicizing results, showcasing their work, presenting their group, and reaching a broader audience	2
Success	Evaluates motivation toward achievement, the sense of a job well done, the perception of collective accomplishment, and the perceived usefulness of the work	2
Social engagement	Assesses changes in students' social involvement, particularly in terms of fostering interest in service activities and encouraging participation in other social initiatives	2

Each dimension was divided into measurable items rated on a six-point Likert scale: 1 = *not at all*; 2 = *very little*; 3 = *slightly*; 4 = *moderately*; 5 = *highly*; and 6 = *completely*. A reliability and validity analysis was conducted to assess the quality of the measurement instrument. To ensure construct validity, a content validity assessment was conducted via expert judgment. The five specialists rated each item, yielding a mean raw score of $X = 3.8$ (on a maximum scale of 5), which indicates a high degree of initial relevance. Subsequently, Lawshe's content validity ratio (CVR) formula was applied to each item. The critical values were determined according to the tables provided by Ayre and Scally (2014), utilizing the exact binomial test. The resulting content validity index for the complete instrument, calculated as the average of the accepted CVRs, was .966, confirming excellent content validity. Items were revised and modified based on expert feedback for clarity. Regarding instrument reliability, Cronbach's alpha coefficient was calculated, yielding a value of .988.

Results

Two statistical analyses were conducted: a descriptive study and a comparative study. For this purpose, SPSS software (version 26) was used. The first study examined in detail the data obtained from students, analyzing means and standard deviations for each of the eight study dimensions: motivation, engagement, creativity, communication, monitoring, dissemination, success, and social engagement.

The second study aims to determine whether the results reported in the first study show significant differences based on students' identification and prior experience variables. Specifically, the variables examined include gender, age, and degree program, whether the student had repeated the course, prior use of SL in other courses, and prior use of SM in other courses.

Analysis of the relationships between the eight evaluated dimensions and these variables revealed significant differences only in certain dimensions, specifically with respect to the degree program, prior

use of SL, and prior use of SM. The results section reports only the analyses that yielded statistically significant values.

The analyses were performed and verified using different statistical tests, selected according to whether the data were parametric (t test for two groups, Analysis of Variance [ANOVA] for more than two) or nonparametric (Mann–Whitney U test for two groups, Kruskal–Wallis for more than two).

Impact of the SL Methodology and SM on the Analyzed Dimensions

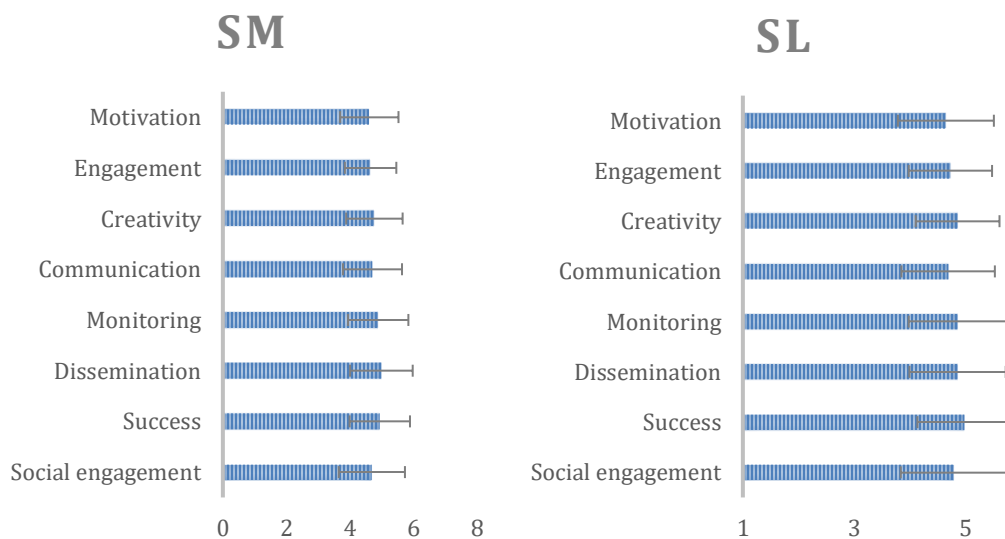
The questionnaire included several initial questions to establish possible relationships with the study dimensions. Students were asked about their prior experience with each methodology individually, with one question addressing SL and another addressing SM, before using both in this course. Most students (51.2%) had never used SL before, while only 18.7% had used it more than once. In terms of SM usage, a considerable percentage of students (42.1%) reported using it once in another academic subject, followed by those who had never used it (40.8%).

Additionally, students were asked whether they found it easier to carry out practical activities using these methodologies on a scale from 1 (much easier) to 10 (much more difficult). The results showed an average score of $M = 5.17$ ($SD = 2.54$). Similarly, they were asked to rate whether the effort invested in these methodologies was worthwhile, using a scale from 1 (*not worthwhile at all*) to 10 (*very worthwhile*). The students rated the effort positively, with an average score of $M = 8.43$ and a standard deviation of $SD = 1.68$. Notably, the majority of students (84.3%) believed that the SL methodology would not have the same impact without the use of SM.

Figure 1 presents the mean scores for each of the eight study dimensions.

Figure 1.

Mean Scores and Standard Deviation for Study Dimensions.



Note. SL = service-learning; SM = social media

Regarding the use of SM, the dissemination dimension stands out. The majority of students reported that they had been provided with many (43.8%) or very many (23.4%) new opportunities to showcase their work. Additionally, the sense of success was notable, with 68.9% of students stating that they felt they had done a good job to a great or very great extent. Although the dimensions related to motivation (4.61) and engagement (4.65) presented slightly lower average scores compared with other dimensions, their values

still indicate a relevant level of presence, remaining well above the midpoint of the 1–6 scale and therefore retaining importance in the overall evaluation.

In the SL methodology, the highest-rated dimension by students was success, as 66.9% felt that their work had been meaningful to a great or very great extent. Alongside success, creativity and instructor follow-up were also highly valued. In the creativity dimension, the majority of respondents (68.9%) reported that their creativity had significantly increased, leading them to explore many or very many (68.5%) different approaches. Regarding follow-up, 64.8% of students indicated that SL greatly or very greatly facilitated their instructors' ability to monitor their projects.

Variables Associated with the Analyzed Dimensions

ANOVA and Kruskal–Wallis H tests were used to explore significant differences across variables.

Of the eight dimensions analyzed in the study, significant differences were found only in the “engagement” dimension in relation to the students' degree program. Specifically, students enrolled in the social education degree program reported a greater perceived impact on their social engagement through both the use of SM and the SL methodology. As shown in Table 2, the null hypothesis of equal means was rejected using ANOVA for both variables—SL methodology ($F(2,296) = 9.75, p < .001, \eta^2 = .062$) and SM usage ($F(2,296) = 3.52, p = .031, \eta^2 = .023$)—indicating statistically significant differences between groups. The results for the remaining seven dimensions are not presented, as no statistically significant differences were observed.

Table 2.

ANOVA Test Results for Social Engagement Dimensions and the Degree Program Variable

		Sum of squares	df	Mean square	F	Sig.
Social engagement with SL	Between groups	18,300	2	9,150	9,745	.000
	Within groups	277,926	296	939		
	Total	296,226	298			
Social engagement with SM	Between groups	7,964	2	3,982	3,516	.031
	Within groups	335,170	296	1,132		
	Total	343,134	298			

Note. df = degrees of freedom; sig. = significance; SL = service-learning; SM = social media

Post hoc comparisons using the Scheffé test revealed that for the SL methodology, students in the early childhood education program (Group 1) reported significantly lower perceived impact compared to those in both primary education (Group 2) ($p = .019$; 95% CI = $[-.78, -.06]$) and social education (Group 3) ($p < .001$; 95% CI = $[-.85, -.23]$). However, no significant differences were observed between primary education and social education ($p = .738$), suggesting that both groups had similarly high perceptions of impact from the SL methodology.

In contrast, for SM usage, although the ANOVA indicated significant differences between groups, the Scheffé post hoc test did not reveal any statistically significant pairwise differences. This suggests that while mean differences existed, they were not strong enough to be distinguished reliably across degree programs, reinforcing the interpretation of a small effect size.

Using ANOVA and Kruskal–Wallis H statistical tests, differences were found between groups based on whether students had previously used SM and the SL methodology in other courses. Table 3 presents the contrasts conducted according to students' prior experience with SL and SM, reporting only those dimensions that exhibited statistically significant differences. Regarding the SL methodology, students who had never used it in other courses rated the following dimensions higher: motivation ($F(3) = 6.917, \eta^2 = .065$); engagement ($F(3) = 4.653, \eta^2 = .045$); communication ($F(3) = 6.559, \eta^2 = .062$); follow-up ($F(3) = 6.945, \eta^2 = .066$); dissemination ($F(3) = 3.089, \eta^2 = .030$); success ($F(3) = 3.249, \eta^2 = .032$); and social engagement ($F(3) = 2.684, \eta^2 = .026$).

For SM, students who had never used it before reported a greater perception of success ($F(3) = 2.805$, $\eta^2 = .028$) compared to those who had previously used it in other courses.

Table 3.

Significant Contrasts Between Study Dimensions and the Items “Have You Used SM Before?” and “Have You Used the SL Methodology Before?”

	Have you used the SL methodology before?	
	<i>P</i>	Post hoc
Motivation in SL	.000 ¹	Scheffé post hoc comparisons revealed no significant differences among groups ($p > .05$). Nevertheless, a slight upward trend was observed, with students reporting higher motivation as prior experience with SL increased ($M_1 = 3.39$, $M_2 = 4.58$, $M_3 = 4.80$, $M_4 = 4.73$).
Engagement in SL	.003 ¹	No statistically significant differences were found between groups ($p > .05$). However, mean scores increased from those who had never used SL ($M = 3.90$) to those with more frequent prior use ($M = 4.65$ – 4.81), suggesting a positive, albeit nonsignificant, trend.
Communication in SL	.000 ¹	No significant post hoc differences were observed ($p > .05$). Still, communication scores were higher among students with greater SL experience ($M_1 = 3.51$ to $M_4 = 4.79$).
Monitoring in SL	.000 ¹	Scheffé results showed no significant differences ($p > .05$), though students with no prior SL experience had the lowest monitoring scores ($M = 3.94$) compared to others ($M = 4.70$ – 5.06).
Dissemination in SL	.027 ¹	The differences approached significance ($p = .067$), with a clear pattern: Students with no prior SL exposure scored lower ($M = 4.33$), and those with frequent experiences scored higher ($M = 5.00$). This may indicate a meaningful trend worth further exploration.
Success in SL	.008 ²	No significant differences were detected ($p > .05$), although the general trend suggested that students with more prior experience reported slightly higher perceived success ($M_1 = 4.39$ to $M_4 = 5.12$).
Social engagement in SL	.040 ¹	Although not statistically significant ($p = .093$), students who had never used SL before reported the lowest social learning scores ($M = 4.00$), while those with previous exposure had higher values ($M = 4.69$ – 4.88), indicating a potential positive association.
	Have you used SM before?	
	<i>P</i>	Post hoc
Success in SM	.040 ¹	No significant differences were found across groups ($p = .871$). However, students with no prior experience using SM in other courses reported slightly higher success scores ($M = 5.14$) compared to those with some previous use ($M = 4.78$ – 5.00), indicating a nonsignificant inverse trend.

Note. ¹ANOVA, ²Kruskal–Wallis; SL = service-learning; SM = social media

Discussion

At this moment, values such as social commitment and responsibility are essential for higher education. The integration of SL combined with SM in teacher education was positively perceived by students across all dimensions analyzed, particularly in terms of dissemination and the perceived success of their work. These findings reveal specific implications for teacher training. Although SL is becoming increasingly popular as a methodological approach in higher education (Fernández-Hawrylak et al., 2021), most students in the study sample had never used it before. However, the results support significant benefits in motivation, engagement, communication, follow-up, dissemination, success, and social involvement.

The use of SL motivated students to increase their engagement and enhanced communication between teachers and students, among peers, and with the broader community. It also improved instructor follow-up, reinforcing the learning process (Gezuraga & García, 2020), and strengthened students' sense of accomplishment, making them feel their work was meaningful and applicable to their future careers (Sanchez, 2021). Additionally, SL significantly boosted creativity, encouraging students to explore new ideas and approaches.

Social education students may have perceived a greater impact because their academic training is explicitly oriented toward social transformation, community engagement, and working with vulnerable populations (Sánchez Alba et al., 2017). The aims of SL closely align with these professional values, allowing them to experience a stronger sense of relevance and social responsibility. Moreover, the use of SM enhanced their ability to disseminate messages and raise awareness—core competences within their field—thereby reinforcing their engagement and perceived impact.

Regarding the use of SM, while a significant portion of students had used them in other courses, many had not applied them to create resources or projects in practical classes.

Our findings confirm that students' degree program and prior exposure to SL and SM significantly influence their perceptions of the impact of these methodologies. These students reported a greater sense of success, indicating that their work had a tangible impact (Trujillo et al., 2015). Among the analyzed dimensions, dissemination had the most influence, as SM allowed students to share their work widely (Romero et al., 2019). Additionally, SM facilitated instructor feedback and monitoring, although their role in motivation and engagement was less pronounced compared to other factors (Buxarra, 2016). The consistently high scores in success and dissemination dimensions suggest that students found these methodologies valuable not only in terms of academics but also in terms of personal and professional development. The moderate effect sizes observed in motivation, communication, and follow-up dimensions for those without prior SL experience underline the transformative potential of this methodology when it is introduced for the first time. Similarly, the influence of prior SM use on creativity and communication points to the role of familiar digital environments in enhancing engagement and expression. The combined use of SL and SM was particularly well received, with students valuing the effort involved in both methodologies. The perception that their work had meaning was one of the most encouraging findings of this study, as it reinforced their commitment to project development.

Conclusion

A key takeaway from this study is that many students perceived SL as more engaging when complemented by the use of SM, suggesting that SM can play a supportive role in enhancing learning experiences in virtual environments. This confirms the need for a combined approach in higher education (Opazo et al., 2016). The use of SM enhances SL by facilitating result dissemination and reinforcing social engagement through digital interactions, such as receiving likes and feedback. These elements contribute to greater motivation and a stronger sense of achievement.

Among the different degree programs analyzed, social education students reported the highest impact of SL and SM on their social engagement. This aligns with their academic profile, which emphasizes commitment, awareness, and sensitivity toward social issues. As digital natives, university students naturally use SM, making their integration into the classroom a logical step (Martínez, 2020). This is particularly relevant for future educators, who will need to adapt to evolving teaching–learning spaces by leveraging technology and innovation. The educational use of SM provides new opportunities for result dissemination, communication among students and faculty, and engagement with the broader community.

The findings of this study have significant educational and societal implications. From an educational standpoint, they advocate for the integration of methodologies such as SL and the utilization of SM in teacher education programs, thereby underscoring their capacity to facilitate meaningful learning, enhance collaboration, and promote the development of both digital and civic competencies. From a societal perspective, these approaches help to bridge the gap between academic training and social realities, encouraging future educators to assume an active and engaged role within their communities.

Furthermore, the results of the study highlight the importance of intentionally designing SL projects that incorporate digital media in ways that transcend mere dissemination, fostering critical thinking, ethical participation, and interdisciplinary collaboration. In this regard, the study aligns with current trends in educational innovation and provides empirical support for pedagogical strategies that address both the digital transformation of education and the growing need for socially committed professionals.

This study confirms the potential of SL in teacher training and highlights the benefits of SM for communication and engagement dynamics. However, a limitation of this research is its focus on education degrees. While these programs may seem ideal for implementing SL, there is potential to expand this methodology to other academic disciplines. The benefits observed in this study suggest that SL and SM could be successfully applied in other fields, even those not traditionally associated with social sciences. The community partners involved in this initiative encompassed NGOs, schools, and local associations. These partners played a crucial role in the selection of topics for the projects, as well as the validation of proposals submitted by the student teams. The projects were designed to respond directly to the needs communicated by the community partners (e.g., awareness campaigns or the development of materials). Feedback from partners, collected informally during final evaluation sessions, as well as the reception and use of the materials developed, demonstrated the satisfaction and interest of partners following the interventions. In light of these findings, it is imperative to acknowledge the pivotal role that community partners play in ensuring the relevance and efficacy of projects. The active involvement of these actors is a prerequisite for the success of these endeavors. The results of our research suggest several ideas that may assist in the design and implementation of SL projects facilitated by SM. It is recommended that students select platforms and formats that are appropriate for the community partner's target audience. For example, Instagram may be more suitable for youth-oriented initiatives, whereas Facebook may be more appropriate for intergenerational outreach. In addition, reflective activities that invite students to think critically about the ethical aspects of public communication and representation should be incorporated. Furthermore, community partners should be involved in the joint design of projects to enhance authenticity and contextual relevance.

It is also essential to acknowledge the potential negative aspects of SM use that may influence users' perceptions and experiences. These include manipulation, misinformation, and polarization (Jovanovic & Stankovic, 2024); the risk of addiction, which can lead to distraction and social or family isolation; concerns related to privacy and data security; and possible health or behavioral consequences (Siddiqui & Singh, 2016).

Finally, the findings underscore the importance of incorporating digital literacy and civic engagement competencies into teacher education curricula. Beyond the mere technical mastery of digital tools, the integration of SM within pedagogical frameworks such as SL can promote creativity, ethical awareness, and transformative learning experiences. Consequently, curriculum design should intentionally embed digital SL projects that connect future educators with real community needs while enhancing their professional and social responsibility. From an educational policy perspective, institutions should support the systematic inclusion of these experiences through policies that encourage digital innovation, interdisciplinary collaboration, and partnerships with community organizations. Such initiatives would contribute to preparing educators capable of critically engaging with digital environments and leveraging them as spaces for democratic participation and educational transformation.

Future research should explore the integration of SL and SM in diverse university contexts, incorporating interdisciplinary approaches and broadening the generalizability of the findings.

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