education sciences

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The Use of AI by Undergraduate Students of Social Education in Spain and Portugal: A Case Study

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Abstract: Artificial Intelligence (AI) is currently transforming many areas of society, including education. AI offers innovative tools and methods that personalise learning, automate processes and improve the educational experience. Social education seeks to foster integral human development and collective well-being, and AI can be a powerful tool to achieve these goals. For this reason, the main objective of this study is to learn about the use of AI by future social educators. This research is approached from a qualitative methodology. A total of 69 undergraduate students of Social Education from two universities in Spain and Portugal participated in the study. As results and conclusions, it is worth highlighting that future social educators define AI with key words such as tools, technology or help-solution. Most of the students had used AI throughout their academic life. In fact, they used AI academically, at work and personally to search for information or to generate images, mainly through ChatGPT (version 4.0). They highlighted as an advantage the speed of the information, a time-saving feature. The main limitation was the reduction in activities. In general, they considered that AI has a positive impact and would like to continue using it.

Keywords: artificial intelligence; future social educators; uses; benefits; limitations; impact; Spain; Portugal

Academic Editors: Marisol Cueli and Lourdes Villalustre

Received: 30 January 2025
Revised: 16 March 2025
Accepted: 18 March 2025
Published: 20 March 2025

Citation: Martínez-Carrera, S., Sánchez-Martínez, C., Fernandes, S., & Ricoy, M.-C. (2025). The Use of AI by Undergraduate Students of Social Education in Spain and Portugal: A Case Study. *Education Sciences*, *15*(3), 390. https://doi.org/10.3390/educsci15030390

1. Introduction

Today, Artificial Intelligence (AI) is a globally expanding phenomenon. AI is far from reaching its ceiling, and its evolution continues to push the boundaries of what is possible. AI is revolutionising education, transforming how knowledge is taught, learned and managed. With the ability to personalise experiences, automate processes and analyse large volumes of data, AI is helping to overcome barriers and expand educational opportunities. Despite its benefits, the use of AI in education poses challenges. However, good use of AI has the potential to transform education into a more inclusive, efficient and enriching experience.

The increasing integration of AI into education raises significant ethical concerns, particularly regarding over-reliance on AI tools. While AI has the potential to enhance learning experiences, excessive dependence on these technologies risks diminishing students' critical thinking and problem-solving abilities (Zhai et al., 2024). When learners rely too heavily on AI-generated content, they may struggle to develop independent analytical skills, creativity, and the ability to evaluate information critically (Selwyn, 2019). This issue is further intensified by algorithmic bias, where AI systems trained on biased data can reinforce social inequalities. Additionally, gaps in digital literacy among both students

and educators can make users vulnerable to misinformation and ethical missteps in AI utilisation. Addressing these challenges is essential to ensuring AI's responsible integration into education, bringing a balance between enhancing its benefits and maintaining essential human cognitive skills.

The main objective of this study is to explore how future social educators from two universities in Spain and Portugal engage with AI in their academic, professional, and personal lives. This research aims to assess their perceptions, utilisation patterns, and the broader implications of AI in the field of social education. As specific objectives, we have determined the following:

- To establish a definition of AI according to future social educators.
- To understand the use of AI by future social educators in academic, work and personal environments.
- To identify the benefits and disadvantages of the use of AI by future social educators.
- To discuss the impact of AI according to future social educators.

1.1. Artificial Intelligence and Its Role in Education

Artificial intelligence (AI) is defined by the European Commission as software systems developed using various techniques and approaches, such as machine learning, logic-based programming, and statistical modelling, to perform tasks that typically require human intelligence (European Commission, 2022). These tasks include generating predictions, recommendations, and decisions that influence the environments they interact with. AI systems rely heavily on data, collected through multiple modalities such as sound, images, and text, to train models and achieve desired outcomes (European Commission, 2022).

During the past decade, AI has gained a higher attention in education (Bandara & Senanayaka, 2024; Chiu et al., 2023; Popenici & Kerr, 2017; Tan et al., 2025; Zawacki-Richter et al., 2019). AI systems are increasingly present in educational settings, where they bring transformative potential and different ways to support teaching, learning and assessment practices. The European Commission (2022) highlights four primary application domains of AI:

- Student teaching—Using AI to teach students.
- Student supporting—Using AI to support student learning.
- Teacher supporting—Using AI to support teacher.
- System supporting—Using AI to support diagnostic or system-wide planning.

In accordance to this view, a systematic review developed by Bandara and Senanayaka (2024), about the use of AI in Education, based on a wide corpus of existing literature (from 2013 to 2023), identified four main themes: use of AI for learning activities, use of AI for teaching, AI in evaluation, use of AI in administration procedures (Bandara & Senanayaka, 2024). Crompton and Burke (2023) also conducted a systematic review presenting findings about the use of AI in higher education from 2016 to 2022. The findings show that in 2021 and 2022, publications rose nearly two to three times the number of previous years. The main topics that emerged from the data were as follows: assessment/evaluation, predicting, AI assistant, intelligent tutoring system, and managing student learning. Despite these advancements, significant gaps remain in the integration of AI in education. Findings show that research has largely focused on enhancing existing educational practices rather than exploring AI's potential for transformative learning models. Additionally, there is a critical need for interdisciplinary collaboration to expand AI applications beyond traditionally studied fields such as language learning and computer science. The ethical challenges associated with AI adoption, including over-reliance, algorithmic bias, and digital literacy gaps, must be addressed to ensure that AI serves as a tool for empowerment rather than dependence. The study concludes that future research should focus on how AI can be used

to foster independent learning, critical thinking, and equitable educational opportunities across diverse contexts (Crompton & Burke, 2023).

While AI offers numerous benefits, its adoption requires adherence to ethical principles to mitigate potential risks, mostly regarding student learning and assessment practices (Cotton et al., 2024; Eke, 2023; Lo, 2023; Waltzer et al., 2023a). The European Commission emphasises the need for educators to critically engage with AI systems to ensure their transparency, reliability, and fairness in educational contexts (European Commission, 2022). Assessment practices mostly based on written essays or tests need to be reinvented to give floor to authentic assessments tasks, that focus on the acquisition and integration of student competencies in real-life scenarios that can be discussed and argued between students and teachers (Mai et al., 2024; Waltzer et al., 2023a, 2023b, 2024).

1.2. Impact of AI in Higher Education

Artificial intelligence (AI) is transforming higher education by enhancing learning experiences, reshaping teaching practices, and reorganisation of academic services. For students, AI fosters personalised learning by adapting content to individual needs and learning styles, improving engagement and academic performance. Tools like intelligent tutoring systems and adaptive learning platforms offer tailored feedback and support, while AI-powered plagiarism detection ensures academic integrity (Holmes et al., 2019). However, AI-powered plagiarism detection systems have significant limitations in identifying AI-generated content. Traditional tools rely on database comparisons and are effective for detecting direct matches but struggle with AI-generated text, which is newly created rather than copied. Emerging AI-detection tools face high false positive and false negative rates, misclassifying both AI-generated and human-written content. Additionally, minor edits can easily bypass detection, reducing reliability. Given these challenges, AI plagiarism detection should be complemented with alternative assessment methods, such as process-based evaluations and critical analysis of writing styles. Also, concerns about overreliance on AI tools and their potential to undermine critical thinking remain relevant (Selwyn, 2019). For teachers, AI reduces administrative workloads, such as grading and scheduling, allowing more time to focus on pedagogy (Yu et al., 2024). Nevertheless, educators must adapt to the integration of AI into their roles, requiring new digital skills and ethical awareness to navigate its use responsibly. In academic services, AI enhances institutional efficiency through chatbots for enrolment, advising, and administrative support, providing round-the-clock assistance to students and staff. Predictive analytics are increasingly used to identify at-risk students, optimise resource allocation, and improve retention rates (Mena-Guacas et al., 2024).

The integration of AI into academics' daily activities has significantly influenced their roles in teaching (S. Ahmed et al., 2022; Holmes et al., 2019; Lin, 2022; Selwyn, 2019; Yu et al., 2024) and professional development (Al-Zyoud, 2020; Chang & Hwang, 2024; Kitcharoen et al., 2024; Tan et al., 2025). When analysing the different usage of AI tools in the classroom, there are some differences in the education level lectured by teachers (Galindo-Domínguez et al., 2024). Primary and secondary teachers mainly use AI for content creation purposes such as presentations, texts, or videos, without emphasising student engagement with AI tools. In contrast, higher education teachers use AI for academic-technical purposes, explaining AI functioning, obtaining information, and enabling students to experiment with AI tools, as well as research-related tasks like text translation, or data analysis (Galindo-Domínguez et al., 2024). Teacher training programs can benefit from tailored made pedagogic designs, adequate for each education level, incorporating a diversity of AI tools that go beyond the use of ChatGPT. The study by Johnston et al. (2024) explores the perspectives of students on the use of generative AI technologies, such as ChatGPT, within the context

of higher education. The authors aimed to understand how students interact with these technologies, how their confidence in academic writing influences their usage, and how they believe institutions should regulate their use (Johnston et al., 2024). The results of the study draw attention to the transformative potential of generative AI in higher education while highlighting significant ethical and practical concerns. On one hand, generative AI tools can enhance students' learning experiences by providing personalised feedback, facilitating language translation, and improving accessibility for students with disabilities. On the other hand, issues such as algorithmic bias, data privacy, and over-reliance on these technologies pose challenges that require institutional attention. Johnston et al. (2024) emphasise the importance of co-creating academic policies with students to ensure fairness and inclusivity. Banning generative AI technologies would be counterproductive, as these tools are likely to play an increasingly central role in professional contexts. Instead, they advocate for educating students on the responsible use of generative AI and designing assessments that minimise the potential for misuse.

AI literacy is essential for both students and educators to critically engage with AI tools in a responsible and informed manner. This can be achieved through targeted digital literacy programs that emphasise ethical considerations, bias awareness, and the responsible use of AI-generated content (Selwyn, 2019; Zhai et al., 2024). These programs should foster discussions on the societal impact of AI, addressing issues such as algorithmic bias, privacy concerns, and the implications of AI in decision-making processes. Integrating critical AI literacy into curricula across disciplines can help students develop a deeper understanding of the underlying technologies, promoting transparency and ethical practices in their use. Additionally, hands-on experience with AI tools, such as evaluating AI outputs, identifying biases, and assessing the fairness of algorithms, can empower both students and educators to become active, critical users of these technologies (Zawacki-Richter et al., 2019). This is crucial to support and prepare people with the skills and competences needed for success in learning, work, and life (European Commission, 2025).

Addressing AI's challenges requires a balanced approach that leverages its benefits while mitigating its potential drawbacks. Its impact on higher education is profound, offering opportunities to enhance learning and operational efficiency while posing ethical and practical challenges that demand critical and collaborative approaches to its adoption. Policy frameworks must promote ethical AI use, ensuring transparency, accountability, and inclusivity across all domains. The need for interdisciplinary collaboration between educators, technologists, and policymakers is critical to ensuring AI's responsible integration into educational systems.

2. Materials and Methods

This study is presented under a qualitative methodology based on a narrative approach. Specifically, it is a multiple case study. De Gialdino (2006) states that qualitative research is multi-method, naturalistic and interpretative. Qualitative researchers inquire into natural situations; they look for complex problems in situations, as real as possible (Tracy, 2021). For Monje (2011, p. 16) qualitative research 'attempts to make a global approach to social situations in order to explore, describe and understand them inductively. That is, based on the knowledge of the different people involved in them and not deductively, based on hypotheses formulated by the external researcher'. As Maxwell (2012) points out, inductive research prevails in qualitative research. For Tonon (2014, p. 5), 'qualitative methods look for their problems in everyday life, are used to study intersubjective and localised meanings, and are oriented towards discovery, not verification'. Despite all its possibilities, qualitative research remains one of the great unknowns (Denzin, 2017; Fernández Navas et al., 2020). A qualitative case study was preferred because a deep and

contextualised understanding of the phenomenon under study was sought. This approach allows participants' perceptions, experiences, and meanings to be explored inductively in real situations, which is especially useful when the goal is to understand the complexity of social processes and relationships.

In contrast, a mixed methods approach, which would include a quantitative component, could offer measurable and comparable data, such as the frequency of use of AI tools. However, such a component may not capture the richness and subtlety of interactions and narratives evident in natural contexts. Therefore, by focusing exclusively on the qualitative case study, priority is given to the ability to identify nuances and details that, in initial stages or in exploratory research, are essential to generate a solid theoretical basis and to understand in depth the phenomenon analysed.

Qualitative research encompasses the study, use and collection of a variety of empirical materials as case studies. Multiple case studies contribute to theory development by providing a comprehensive understanding of a specific phenomenon (Yin, 2018).

2.1. Participants, Instruments and Data Collection

A total of 69 students studying for a degree in Social Education from two universities took part in this study: one in Spain (38 students) and the other in Portugal (31 students). Of the 69 students, 19 (27.54%) were men and 50 (72.46%) were women (Table 1). The age of the participants ranged from 17 to 27 years, with an average of 19.55 years. In Spain, the age of the participants was predominantly between 20 and 22 years, while in Portugal, there were as many students aged 17–19 as 20–22 (14/31; 45.16% in both cases). In terms of educational background, it is worth noting that Spanish students were predominantly from vocational training courses (26/38; 68.42%), while Portuguese students were predominantly in secondary education (28/31; 90.32%).

Table 1. Profile data.

		Future Educators Spain (f = 38)		**Future Educators Portugal (f = 31)**			
		fi	**ni**	**fi**	**ni**	**Total fi**	**Total ni**
Age	17–19	10	26.32%	14	45.16%	24	34.78%
	20–22	22	57.89%	14	45.16%	36	52.17%
	23–27	6	15.79%	3	9.68%	9	13.04%
Gender	Male	16	42.11%	3	9.68%	19	27.54%
	Female	22	57.89%	28	90.32%	50	72.46%
Studies of origin	Vocational Training (VET)	26	68.42%	2	6.45%	28	40.58%
	Secondary-Baccalaureate	12	31.58%	28	90.32%	40	57.97%
	Grade	0	0.00%	1	3.23%	1	1.45%

For data collection, an ad hoc questionnaire was used as an instrument, as there was none available on the market that was suitable for this research.

The questionnaire consisted of two blocks: one that collected profile data, and a second block that aimed to determine the use of AI by students of Social Education. For this purpose, 7 open questions were asked. Some of them were as follows: What is Artificial Intelligence? Describe it in your own words. What have you used Artificial Intelligence for academically, at work, personally, and what tools/applications have you

used?. The questionnaire was validated by 5 experts in the subject and type of research from 3 Spanish universities.

For its development, the researchers, who are also teachers of the participants, explained the research in detail to the students. It should be noted that the participants were informed in advance of the voluntary nature of their participation in the research, as well as of the purpose and use of the data collected, and gave their consent to participate. Logically, the data were anonymised and confidential, stored securely by the researchers. In addition, participants have the right to withdraw at any time from the process. Participants were not explicitly informed about the possible biases and risks of AI before completing the questionnaire.

To carry out the data collection, the researchers gathered the participants in a computerised classroom in each faculty and explained to them how to fill in the questionnaire, which was carried out online using Google Forms. The questionnaire took approximately 40 min to complete. The researchers were available to answer any questions or suggestions.

2.2. Data Analysis

A content analysis was applied to the information collected through the online questionnaires. In order to do this, it was necessary to organise all the information collected beforehand. In order to define the main units of analysis (categories and subcategories), we received advice from four experts (both in the subject matter under study and in content analysis) from three Spanish universities. The content analysis was carried out so that several researchers carried out the coding independently, which ensured the reliability of the results. Specifically, two researchers with experience in this type of analysis coded the information collected from the online questionnaires following the guidelines and units of analysis (categories and subcategories) defined with the advice of experts.

Once independent coding was completed, a reconciliation process was carried out in which both coders compared their results. If discrepancies or differences in code assignment were identified, meetings were held to discuss and clarify the coding criteria, reaching a common consensus. This collaborative and reflective process ensured that the final analysis robustly and validly reflected the information collected, facilitating the interpretation and understanding of the results through tables and figures.

The Analysis of Qualitative Data (AQUAD) software, version 7, was used to carry out the analysis. The results were then transferred from AQUAD to Excel. This facilitates the presentation in the results section of the frequency count (absolute and relative) through tables and figures. Iconic representation is essential to provide an effective interpretation and understanding of the results.

3. Results

This section presents the results of this research accompanied by some iconic and textual components. In order to optimise their organisation, they have been grouped into four sub-sections, which correspond to the specific objectives of this study.

3.1. What Is Artificial Intelligence?

This study shows that future social educators, when defining Artificial Intelligence, identify different key words (Table 2). Both Spanish and Portuguese students studying for a degree in Social Education used the word tool (Spanish future educators: 12/38; 31.58%; Portuguese future educators: 9/31; 29.03%). To the same extent, Spanish pupils referred to the word technology (12/38; 31.58%) as well as to information (10/38; 26.32%). On the

other hand, Portuguese pupils pointed to the word future (9/31; 29.03%) and help-solution (7/31; 22.58%) as part of the definition of AI.

Table 2. Definition of artificial intelligence.

	Future Educators Spain (f = 38)		Future Educators Portugal (f = 31)	
	fi	**ni**	**fi**	**ni**
Technology	12	31.58%	4	12.90%
Data	6	15.79%	0	0.00%
Help-Solution	4	10.53%	7	22.58%
Robot	2	5.26%	2	6.45%
Tool	12	31.58%	9	29.03%
Future	4	10.53%	9	29.03%
Informatics	2	5.26%	5	16.13%
Information	10	26.32%	5	16.13%
Innovation	6	15.79%	2	6.45%
Networks	4	10.53%	0	0.00%
Change	0	0.00%	1	3.23%

Some illustrative excerpts are presented below:

It is the intelligence that comes from technology (Future Social Educator 1, Female, 21 years old, Spain. Lines of analysis 11–12).

A digital tool that helps you do what we ask, according to your programme (Future Social Educator 2, Male, 20 years old, Portugal. Lines of analysis 8–10).

3.2. Use of AI in the Academic, Work and Personal Spheres

This study shows that the majority of future social educators have used AI throughout their academic life (Table 3). In the case of the future educators in Spain, those who had used it (32/38; 84.21%) did so mainly at the vocational training stage (14/38; 36.84%) and at the university stage (16/38; 42.11%). In the case of Portuguese future educators who had used AI throughout their academic life (30/31; 96.77%), it was mainly at the university stage (28/31; 90.32%). Only six Spanish students (6/38; 15.79%) had never used AI during their academic life and one Portuguese student (1/31; 3.23%).

Table 3. Use of artificial intelligence throughout academic life.

	Future Educators Spain (f = 38)		Future Educators Portugal (f = 31)	
	fi	**ni**	**fi**	**ni**
YES	32	84.21%	30	96.77%
Secondary education	2	5.26%	5	16.13%
Bach	6	15.79%	0	0.00%
VET	14	36.84%	0	0.00%
Degree-University	16	42.11%	28	90.32%
NO	6	15.79%	1	3.23%

Future social educators in both the Spanish and Portuguese contexts use AI in the academic environment mainly for information search (future educators in Spain: 26/38; 68.42%; future educators in Portugal: 27/31; 87.10%) (Table 4). In the case of Spanish students, they also use it to generate images (4/38; 10.53%), while Portuguese students use it as a support (4/31; 12.90%). In the work environment, students in both countries use AI only to search for information (future educators in Spain: 2/38; 5.26%; future educators in Portugal: 1/31; 3.23%). As for the personal sphere, the search for information again stands out in both contexts (Spanish students: 14/38; 36.84%; Portuguese students: 9/31; 29.03%). Future Spanish educators add the generation of images (4/38; 10.53%).

Table 4. Use of Artificial Intelligence in the academic, work and personal spheres.

		Future Educators Spain (f = 38)		Future Educators Portugal (f = 31)	
Academic	Information search	26	68.42%	27	87.10%
	Generate images	4	10.53%	0	0.00%
	Inspiration	2	5.26%	1	3.23%
	Support	2	5.26%	4	12.90%
Labour	Search for information	2	5.26%	1	3.23%
Staff	Information search	14	36.84%	9	29.03%
	Generate images	4	10.53%	0	0.00%

Below are some illustrative excerpts:

> I use AI mainly to find information (in all fields) and to generate images (in academic and personal fields) (Future Social Educator 12, Male, 25 years old, Spain. Lines of analysis 29–32).

> Yes (I use AI), to do research on the topics addressed (Futuro Educador Social 28, Female, 20 years old, Portugal. Lines of analysis 27–28).

In terms of the AI tools used, the use of ChatGPT stands out for both Spanish students (10/38; 26.32%) and Portuguese students (29/31; 93.55%) (Figure 1). The following applications are also mentioned by future Spanish educators: Perplexity, Google Gemini, Google Bard, DALL-E2 (2/38; 5.26% all of them). Portuguese future educators report to a lesser extent the following tools: Chat PDF, Google Gemini, Copilot (2/31; 6.45% all of them).

This finding is corroborated by a recent report published by the Vodafone Foundation (ParísVodafone Foundation, 2025), which presents insights into students' perceptions, usage, and concerns regarding artificial intelligence (AI) in education. Findings from the study highlight the role of AI in academic settings and the growing demand for skills and tools that integrate AI into learning environments. The results reveal that student usage of and familiarity with AI tools applies to contexts both inside and outside the classroom for varied purposes. This report shows that ChatGPT emerges as the most widely utilised AI tool, with 48% of students using it personally and 47% instructed by their teacher (ParísVodafone Foundation, 2025).

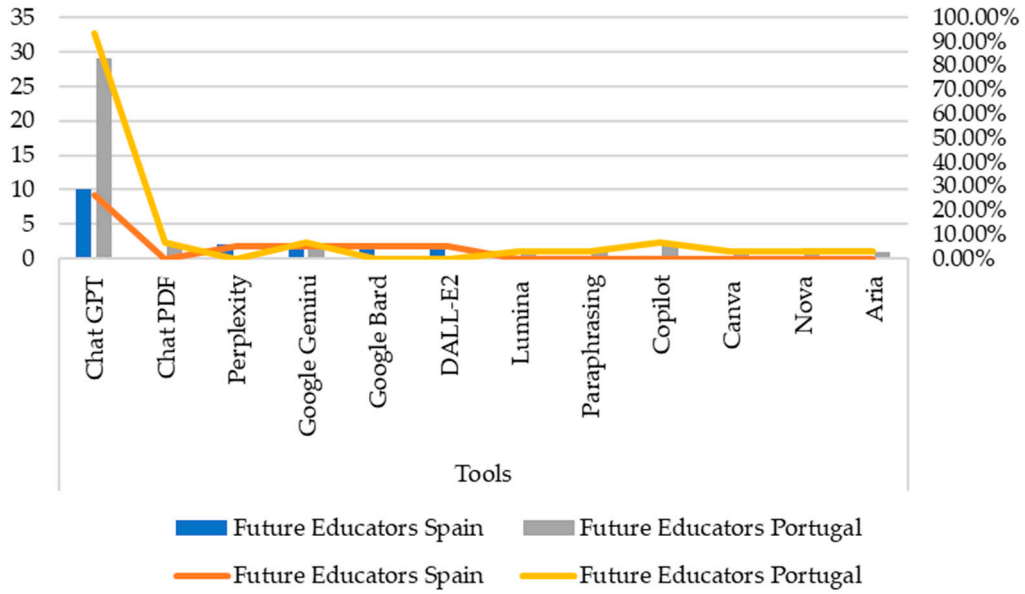

Figure 1. AI tools used.

3.3. Benefits and Disadvantages of AI

This study shows the main benefits and disadvantages of the use of AI by future social educators. With regard to the benefits, Spanish students point out the speed of information/time saving (24/38; 63.16%), as well as the facilitation of understanding/support (20/38; 52.63%) and innovation (14/38; 36.84%) in relation to the academic field. In addition to speed of information/time saving (28/31; 90.32%) and facilitation of understanding/support (14/31; 45.16%), Portuguese students add, to a lesser extent, accessibility (5/31; 16.13%) (Table 5).

In terms of the work environment, both Spanish and Portuguese future social educators consider that AI has benefits in terms of speed of information/time saving (future educators Spain: 28/38; 73.68%; future educators Portugal: 12/31; 38.71%) as well as in facilitating understanding/support (future educators Spain: 10/38; 26.32%; future educators Portugal: 10/31; 32.26%). Spanish students add that the use of AI in the workplace benefits innovation (16/38; 42.11%).

Regarding the personal sphere, again, and coinciding with the benefits of AI in the academic and work environment, the participating students point out as a benefit the speed of information/saving time (future educators Spain: 18/38; 47.37%; future educators Portugal: 19/31; 61.29%) and the facilitation of understanding/support (future educators Spain: 10/38; 26.32%; future educators Portugal: 11/31; 35.48%). Also, to a lesser extent, Spanish students report inspiration as a benefit of using AI in the personal sphere (6/38; 15.79%) and Portuguese students creativity (3/31; 9.68%).

Below are some illustrative excerpts:

> He helps you and gives you examples to develop ideas, he collects information on his own in minutes what you take hours. . .. (Future Social Educator 6, Male, 20 years old, Spain. Lines of analysis 73–75).

> AI is a tool that helps us a lot in our studies and work, because it always has an answer to our questions, and if we need any information, it gives it to us automatically, without wasting time searching. What's more, if we want to summarise a very long pdf and ask it for specific topics, it will help us (Future Social Educator 9, Female 18 years old, Portugal. Lines of analysis 71–77).

With regard to the disadvantages of using AI according to the students of the Bachelor's Degree in Social Education, it should be noted that in the academic field, both the students from Spain and Portugal highlight the decrease in skills (future educators Spain: 15/38; 39.47%; future educators Portugal: 10/31; 32.26%) (Table 6). Likewise, they also agree that a limitation is the low reliability it can cause (future educators Spain: 11/38; 28.95%; future educators Portugal: 11/31; 35.48%).

Table 5. Benefits of using AI.

		Future Educators Spain (f = 38)		Future Educators Portugal (f = 31)	
Academic	Speed information/ Time saving	24	63.16%	28	90.32%
	Facilitation understanding/Support	20	52.63%	14	45.16%
	Inspiration	8	21.05%	0	0.00%
	Accessibility	8	21.05%	5	16.13%
	Innovation	14	36.84%	0	0.00%
	Creativity	0	0.00%	1	3.23%
Labour	Speed of information/Time saving	28	73.68%	12	38.71%
	Facilitation understanding/Support	10	26.32%	10	32.26%
	Inspiration	8	21.05%	0	0.00%
	Accessibility	12	31.58%	4	12.90%
	Innovation	16	42.11%	0	0.00%
	Communication	0	0.00%	1	3.23%
Staff	Speed of information/Time saving	18	47.37%	19	61.29%
	Facilitation understanding/Support	10	26.32%	11	35.48%
	Inspiration	6	15.79%	0	0.00%
	Accessibility	4	10.53%	0	0.00%
	Creativity	0	0.00%	3	9.68%

Referring to the work environment, students from both countries agree that the main disadvantage of using AI is the decrease in skills (future educators Spain: 13/38; 34.21%; future educators Portugal: 9/31; 29.03%). On the other hand, the Spanish future educators point out the unreliability (11/38; 28.95%), while part of the Portuguese students indicate that there is no limitation (8/31; 25.81%).

Regarding the personal domain, both groups of participants again indicate unreliability as the main limitation in the use of AI (future educators Spain: 11/38; 28.95%; future educators Portugal: 9/31; 29.03%). Part of the Portuguese student body again claims that there is no disadvantage (8/31; 25.81%).

Below are some illustrative excerpts:

> The main disadvantage is that by using AI to do work, you don't learn, you don't think for yourself and you are not able to do anything but for yourself. In short,

you lose skills (Future Social Educator 22, Female, 23 years old, Spain. Lines of analysis 53–56).

The disadvantages that may exist in the future are our lack of capacity to develop a response or a project (Future Social Educator 3, Female 19 years old, Portugal. Lines of analysis 57–59).

Table 6. Disadvantages of using AI.

		Future Educators Spain (f = 38)		Future Educators Portugal (f = 31)	
Academic	Decreased skills	15	39.47%	10	32.26%
	Language	0	0.00%	1	3.23%
	Poor reliability	11	28.95%	11	35.48%
	Dependency	0	0.00%	1	3.23%
	Digital divide	0	0.00%	1	3.23%
	None	3	7.89%	7	22.58%
Labour	Decreased skills	13	34.21%	9	29.03%
	Language	0	0.00%	1	3.23%
	Poor reliability	11	28.95%	7	22.58%
	None	3	7.89%	8	25.81%
Personal	Language	0	0.00%	1	3.23%
	Low reliability	11	28.95%	9	29.03%
	Dependency	0	0.00%	3	9.68%
	Digital divide	0	0.00%	1	3.23%
	Does not drive creativity	0	0.00%	1	3.23%
	None	3	7.89%	8	25.81%

3.4. Impact of AI

This study shows the impact of AI according to future social educators in Spain and Portugal. Most of the students of the Spanish and Portuguese Bachelor's Degree in Social Education highlight the improvement of academic performance as a positive impact in the academic field (future educators Spain: 31/38; 81.58%; future educators Portugal: 22/31; 70.97%) (Table 7). Likewise, as a negative impact, in some cases they highlight a decrease in academic performance (future educators Spain: 6/38; 15.79%; future educators Portugal: 9/31; 29.03%).

As a positive impact on the work environment, both groups highlight the improvement of work performance (future educators Spain: 29/38; 76.32%; future educators Portugal: 26/31; 83.87%), as well as facilitating daily tasks (future educators Spain: 24/38; 63.16%; future educators Portugal: 17/31; 54.84%). As a negative impact, students in both countries agree that it reduces creativity (future educators Spain: 7/38; 18.42%; future educators Portugal: 9/31; 29.03%). Regarding the personal sphere, future students of Social Education highlight as a positive impact the improvement of academic performance (future educators Spain: 28/38; 73.68%; future educators Portugal: 14/31; 45.16%).

Below are some illustrative excerpts:

In the work environment, a very important positive impact refers to the possible activities that it can perform effortlessly, facilitating the educator's daily tasks (Future Social Educator 30, Male, 21 years old, Spain. Lines of analysis 59–61).

It helps our work a little, but it can destroy our ability to analyse and develop our writing (Future Social Educator 2, Male, 20 years old, Portugal. Lines of analysis 63–65).

Finally, it should be noted that the majority of Social Education students, both in Spain and Portugal, wish to continue using AI (future educators Spain: 36/38; 94.74%; future educators Portugal: 30/31; 96.77%) (Figure 2). Only two (5.26%) learners in Spain indicate that they would not like to continue using it. In the case of Portugal, one person did not respond.

Table 7. Impact of AI.

			Future Educators Spain (f = 38)		Future Educators Portugal (f = 31)	
Academic	Positive	Improves academic performance	31	81.58%	22	70.97%
	Negative	Reduced creativity	0	0.00%	3	9.68%
		Decreases analytical skills	3	7.89%	1	3.23%
		Decreases academic performance	6	15.79%	9	29.03%
LaboralLabour	Positive	Improves work performance	29	76.32%	26	83.87%
		Facilitates daily tasks	24	63.16%	17	54.84%
	Positive	Reduces creativity	7	18.42%	9	29.03%
		Decreases work performance	2	5.26%	4	12.90%
Personal	Positive	Improves personal performance	28	73.68%	14	45.16%
	Negative	Decreases creativity	7	18.42%	8	25.81%
		Poorer health	2	5.26%	2	6.45%
		Decreases personal performance	2	5.26%	0	0.00%

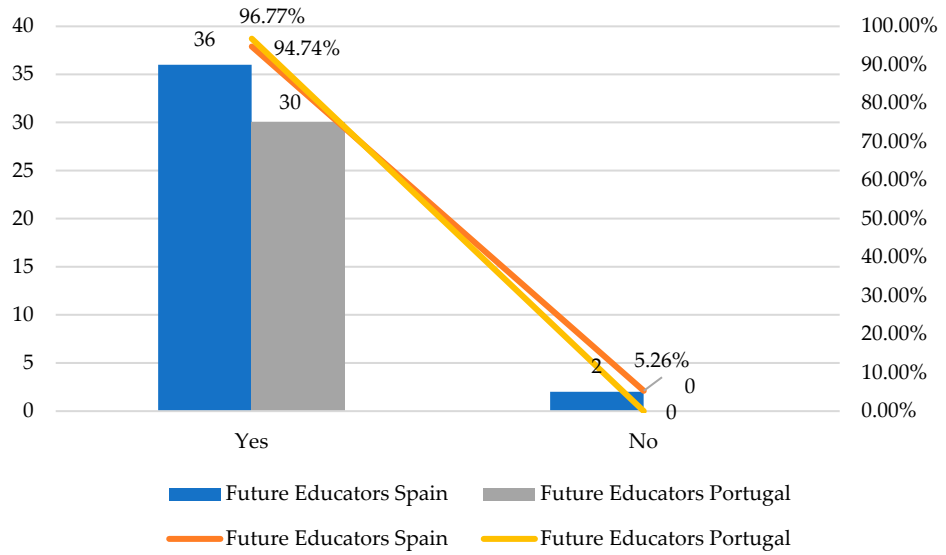

Figure 2. Desire to continue using AI.

4. Discussion

The integration of Artificial Intelligence (AI) in the training of students in the Bachelor's Degree in Social Education, both in Spain and Portugal, has become an increasingly evident phenomenon. From the first years of the degree, future social educators learn about and incorporate AI-based tools and applications not only in the academic field, but also in work and personal contexts. This early contact favours the acquisition of digital competences, while revealing the need for a critical and ethical approach to these technologies (Qu et al., 2022). In this sense, it is essential that students are prepared to critically evaluate the results of AI, and this is not always the case.

The analysis of the data shows that, although there are differences between the groups of future educators in Spain and Portugal in terms of age, gender and studies of origin, these differences are not significant.

Regarding age, it is observed that the majority of participants in both countries are in the range of 20 to 22 years, with a slight variation in the distribution of the other age groups. However, these differences may be due to the characteristics of the educational systems and do not reflect a relevant impact on the results obtained.

University students are able to define Artificial Intelligence. In this sense, they agree with several definitions of representative authors such as Kok et al. (2009), Legg and Hutter (2007), McCarthy and Hayes (1981), or Russell and Norvig (2016) in pointing out technology, tools, information, help-solution or future as key words. In Portugal, the term "future" is mentioned more frequently than in Spain. This could indicate that training in Portugal has a more prospective approach and is oriented towards the future possibilities of AI. Perhaps Portuguese educational programs will promote more reflection on the long-term impact of technology on society. In Spain, there is a greater emphasis on terms such as technology and information, which suggests a more pragmatic and functional vision of AI, related to its current application. On the other hand, in Portugal, the mention of help-solution indicates a possible vision more focused on the benefits of AI to solve social or educational problems. The difference in the use of certain keywords could also reflect the economic and technological expectations of each country. In Portugal, AI could be perceived more as an opportunity for change and progress (hence the presence of future and help-solution), while in Spain there seems to be an emphasis on its technical and practical dimension.

At the academic level, AI is mainly used as a resource to support the search for and systematisation of information. It can also be used for data analysis and research work. These tools are particularly useful for autonomous learning and competence development, as they allow students to access specialised databases and receive almost immediate feedback (A. Ahmed et al., 2022; Kong et al., 2024; Salas-Pilco & Yang, 2022; Zawacki-Richter et al., 2019).

Future social educators use AI for their academic tasks, but they are also learning for their future work. Săseanu et al. (2024) highlight the importance of training young people to meet the requirements of their future jobs. Moreover, the adoption of this type of technology also extends to the personal sphere of university students, who use it for multiple purposes, such as searching for information, planning activities, developing digital skills or entertainment, as shown in the study by Niu et al. (2024). The predominance of the ChatGPT tool is also evident, in line with multiple research studies (Crompton & Burke, 2023; Fu et al., 2024; Lee & Park, 2023).

Referring to the benefits and disadvantages of AI, the future social educators point out the advantages in the academic, work and personal spheres as the speed of information and time saving, as well as the facilitation of understanding and support. In this sense, they agree with studies such as Surugiu et al. (2024) or Alwaqdani (2024). In terms of the disadvantages they point out, it is worth mentioning the decrease in skills and the lack of

reliability. Along these lines, García Peñalvo et al. (2024) argue that AI does not have the capacity for reasoning or comprehension, so they are susceptible to contain faults that need to be contrasted. It is essential to develop the ability to discern the quality and reliability of sources, as well as the relevance of the data obtained. Training in critical evaluation criteria thus takes on an essential role in order to avoid the perpetuation of biases or the dissemination of inaccurate information. It is also essential to take into account other risks such as misinformation, academic dishonesty, diminished critical thinking skills and others.

Various international institutions and organisations have analysed the rise of AI in education, highlighting the challenges and opportunities that its integration implies (UNESCO, 2019). For example, the need to develop ethical and critical skills in the use of algorithms has been highlighted, as well as the need to ensure equity of access to these technologies. Additionally, the importance of providing specific training to educational staff is emphasised so that they can use AI responsibly and effectively in the teaching-learning process (European Commission, 2022).

Nevertheless, Social Education students highlight the positive impact of AI, noting that it improves academic, work and personal performance and facilitates daily tasks (Lim et al., 2023; Mannuru et al., 2023; Pataranutaporn et al., 2021). In fact, almost all are willing to continue using it.

The reviewed studies underline that AI pedagogical training and digital literacy are crucial elements to maximise the benefits and minimise the potential risks of adopting these tools in higher education (Guan et al., 2020). This translates into the need to rethink educational programmes and teaching methodologies in order to adequately prepare future professionals, whether educators or other university profiles, for a work and social environment increasingly mediated by AI.

The findings of this research highlight the need to incorporate, from an early age, a digital education that promotes the responsible and strategic use of AI. Such an approach requires the collaboration of the educational community, institutions and social agents, in order to design coherent educational policies aligned with ethical values and principles of equity. Only in this way will it be possible to reap the benefits of AI while mitigating the limitations and risks associated with its use.

5. Conclusions

The presence and importance of Artificial Intelligence (AI) today is undeniable. It is present in all areas of society, including education. For university students it is part of their daily lives, being used in the academic, work and personal spheres, mainly to search for information.

Future social educators show a great capacity to identify the benefits and possible disadvantages of AI in different fields. On the one hand, they recognise its value in optimising information searches and saving time. On the other hand, they are aware that excessive or uncritical use of AI can lead to a decrease in skills. In addition, concerns about unreliability are one of the most pressing challenges.

Despite these challenges, Social Education students highlight the positive impact of the use of AI and are willing to continue using it, convinced of its contributions to the improvement of academic, professional and personal practice. However, the application of AI in these contexts should not be seen as an end in itself, but as a means to strengthen the human work of accompaniment, guidance and social transformation.

Today's students, who in the future will be social educators, must integrate AI responsibly into social education. To this end, it is essential that they are trained in AI literacy. In this regard, they must continuously train themselves, adapting to the rapid changes in technology. It is essential to keep ethical guidelines in mind and not forget that they

are working with people. It is also essential that they develop and help develop critical thinking. Responsible AI involves aligning with the principles of fairness, security, privacy, accountability, inclusion, sustainability and transparency.

In short, AI has established itself as a tool that is here to stay and improve multiple aspects of academic, professional and personal life. However, its potential does not lie in replacing the human dimension that characterises the work of social educators, but in complementing and enhancing their work. In this way, we aspire to a society that is more aware, critical and prepared to face the challenges of an increasingly digitalised future.

6. Limitations and Future Directions

This study has some limitations that could be addressed in the future. On the one hand, this research has involved, albeit from different countries (Spain and Portugal), one group: university students studying for a degree in Social Education. In this sense, the sample could be extended with the participation of university lecturers, practising social educators, etc. On the other hand, although two different contexts are taken into account, the sample could be extended to include more countries, including a comparison with students from other degrees.

Future researchers could consider other research methods, mixed or purely quantitative. Other data collection instruments, such as interviews, could also be used. It would also be interesting to carry out a longitudinal study, studying the evolution of students from the first year of the degree to the last; or a comparative study between the academic, work and personal spheres.

Despite these limitations, the research presents very interesting results through a case study in two different contexts, dealing with a current issue, which is present and future. For these reasons, the contribution to the scientific community is very positive.

Author Contributions: Conceptualization, S.F.; Methodology, S.M.-C., C.S.-M. and M.-C.R.; Software, C.S.-M. and M.-C.R.; Validation, C.S.-M., S.F. and M.-C.R.; Formal analysis, S.M.-C., C.S.-M. and M.-C.R.; Investigation, S.M.-C. and M.-C.R.; Resources, S.F.; Data curation, S.M.-C., C.S.-M. and S.F.; Writing—original draft, S.M.-C. and C.S.-M.; Writing—review & editing, C.S.-M., S.F. and M.-C.R.; Visualization, S.F.; Supervision, S.M.-C., C.S.-M. and M.-C.R. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board (or Ethics Committee) of the University of Vigo (protocol code CE-DCEC-UVIGO-2022-09-15-5782; Approval Date: 15 September 2022).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Data are contained within the article.

Acknowledgments: We are grateful for the collaboration of the students of the degree in Social Education who agreed to participate in this research.

Conflicts of Interest: The authors declare no conflicts of interest.

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