

# Research on the Use of AI in Education



Scientific Association for the Promotion of

---

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**



**Scientific Association for the Promotion of Lifelong Learning**

Address: 36 Achilleos str, 421 00, Trikala - Greece  
e-mail: : association.saplle@gmail.com

## Research on the Use of AI in Education

[2]

**KA210-SCH - Small-scale partnerships in school education  
Transforming Teaching Practice through Artificial Intelligence  
Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

The present lesson scenario has been developed within the framework of a European Erasmus+ KA210-SCH - Small-scale partnerships in school education project entitled Transforming Teaching Practice through Artificial Intelligence, Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092

The following partner organizations are involved in the project:

- a) Scientific Association for the Promotion of Lifelong Learning, Greece
- b) Gymnasio Agiou Antoniou, Cyprus
- c) Vechtstede College, Netherlands

Project coordinator is Gymnasio Agiou Antoniou, Cyprus

[3]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

## Executive Summary

This report presents the results of a systematic empirical investigation into teachers' knowledge, attitudes, and readiness to integrate Artificial Intelligence (AI) into educational practice. The study was conducted within the framework of an Erasmus+ KA210 cooperation partnership project, which aims to promote innovation and capacity building in the field of digital education. The research is grounded in the growing recognition that AI technologies are reshaping pedagogical approaches, learning environments, and the professional role of teachers.

Data were collected through a structured questionnaire administered to a sample of 90 teachers from participating schools across different national contexts. The instrument was designed to capture multiple dimensions of AI integration, including cognitive (knowledge and understanding of AI concepts), behavioral (current use of AI tools), and affective (attitudes, perceptions, and concerns). In addition, the survey explored teachers' perceived training needs and their readiness to adopt AI-supported teaching practices.

The findings provide a comprehensive overview of the current state of AI awareness in the participating educational contexts. They reveal that, while a significant proportion of teachers demonstrate a basic to moderate level of familiarity with AI technologies, there is still a limited depth of understanding regarding more advanced applications and pedagogical uses. This suggests that teachers are at an early but critical stage of AI adoption, where awareness exists but has not yet fully translated into systematic classroom integration.

At the same time, the results indicate generally positive attitudes toward the potential of AI to enhance teaching and learning processes. Teachers recognize the capacity of AI tools to support personalized learning, facilitate content creation, and provide adaptive feedback to students. This positive disposition is a crucial enabling factor for innovation, as it reflects openness to change and willingness to experiment with emerging technologies.

However, the study also highlights several important challenges and concerns that may act as barriers to effective AI integration. A prominent issue is the perceived reliability of AI-generated content, with many teachers expressing uncertainty about the accuracy and trustworthiness of information produced by AI systems. Ethical considerations also emerged as a significant concern, particularly in relation to data privacy, academic integrity, and the potential for misuse of AI tools by students. Furthermore, participants pointed to the risk of exacerbating existing inequalities, especially in contexts where access to digital resources and technological infrastructure is uneven.

[4]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

One of the most consistent and significant findings of the study is the strong demand for structured professional development. Teachers clearly expressed the need for targeted training that goes beyond basic digital skills, focusing instead on the pedagogical integration of AI, critical evaluation of AI outputs, and the design of inclusive and ethically responsible learning activities. This highlights the importance of adopting a holistic approach to teacher training, combining technical knowledge with pedagogical and ethical competencies.

Overall, the results of this research provide valuable evidence to inform the next phases of the Erasmus+ project. By identifying both the opportunities and the challenges associated with AI in education, the study offers a solid empirical foundation for the development of tailored training programs, educational materials, and implementation strategies. Moreover, the findings contribute to the broader discourse on digital transformation in education, emphasizing the need for carefully designed interventions that support teachers in navigating the complexities of AI-enhanced learning environments.

## 1. Introduction

Artificial Intelligence (AI) has emerged as one of the most transformative technological developments of the 21st century, profoundly influencing multiple sectors of contemporary society, including healthcare, industry, communication, and, increasingly, education. Its rapid evolution, particularly in the field of machine learning and generative technologies, has led to the development of systems capable of performing complex cognitive tasks such as language processing, pattern recognition, decision-making, and content creation. As a result, AI is no longer viewed merely as a technological innovation but as a catalyst for systemic change, reshaping how knowledge is produced, accessed, and disseminated.

Within the educational domain, AI applications are becoming increasingly prominent and diverse. Technologies such as intelligent tutoring systems are capable of providing personalized instruction and real-time feedback tailored to individual learners' needs, while adaptive learning environments dynamically adjust content and difficulty levels based on students' performance and learning pace. Automated feedback tools enable faster and more consistent assessment of student work, reducing teachers' workload and allowing them to focus more on pedagogical interaction. Furthermore, the recent emergence of generative AI platforms, such as ChatGPT, has introduced new possibilities for content creation, lesson

[5]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

planning, and interactive learning, enabling both teachers and students to engage with knowledge in more flexible and creative ways.

Educational institutions worldwide are increasingly recognizing the potential of AI technologies to enhance teaching and learning processes. One of the most significant contributions of AI lies in its ability to support personalized learning, allowing educational experiences to be tailored to the unique needs, abilities, and learning styles of individual students. This personalization can contribute to improved learning outcomes, increased student engagement, and more inclusive educational environments. In addition, AI can play a key role in improving administrative efficiency by automating routine tasks such as grading, scheduling, and data management, thereby enabling educators to dedicate more time to instructional and mentoring activities. At a broader level, AI has the potential to enhance the overall quality of educational systems by supporting data-driven decision-making and facilitating continuous improvement in teaching practices.

Despite these promising opportunities, the successful integration of AI into educational environments is neither automatic nor without challenges. A critical factor influencing this process is teachers' level of digital competence, which includes not only technical skills but also the ability to critically evaluate and effectively use digital tools in pedagogical contexts. Equally important is teachers' pedagogical readiness, that is, their capacity to integrate AI technologies into meaningful learning activities that align with curriculum objectives and promote student-centered learning. Teachers must be able to move beyond basic tool usage and develop a deeper understanding of how AI can support different teaching strategies, assessment methods, and learning outcomes.

Moreover, teachers' attitudes toward technology adoption play a decisive role in determining whether AI innovations are successfully implemented in the classroom. Positive attitudes, openness to change, and willingness to experiment with new tools can significantly facilitate the integration process. Conversely, concerns related to ethical issues, data privacy, the reliability of AI-generated content, and the potential impact of AI on the teacher's professional role may hinder adoption. In this context, it becomes evident that the integration of AI in education is not merely a technical issue but a complex pedagogical and cultural transformation that requires adequate support, training, and institutional guidance.

Therefore, in order to fully realize the potential of artificial intelligence in education, it is essential to adopt a holistic approach that combines technological innovation with teacher professional development, ethical awareness, and pedagogical adaptation. Only by addressing these interconnected dimensions can educational systems ensure that AI is used

[6]

**KA210-SCH - Small-scale partnerships in school education  
Transforming Teaching Practice through Artificial Intelligence  
Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

in a way that enhances learning, supports teachers, and promotes equitable and high-quality education for all learners.

## 2. Methodology

The present study employed a **quantitative research design**, utilizing a structured survey methodology to systematically investigate teachers' knowledge, attitudes, and readiness to integrate artificial intelligence (AI) into educational practice. Quantitative approaches are particularly appropriate for this type of research, as they allow for the collection of standardized data from a relatively large number of participants and enable the identification of patterns, trends, and relationships among variables. The use of a survey instrument ensured consistency in data collection and facilitated the statistical analysis of responses across different participant groups.

The primary data collection tool was a **structured questionnaire**, which was specifically developed within the framework of the Erasmus+ KA210 project. The design of the questionnaire was informed by the project objectives as well as by current research on digital competence and AI integration in education. It was structured into several thematic sections, each aiming to capture a different dimension of teachers' interaction with AI technologies. These sections included: (a) demographic characteristics, such as country, gender, age, subject specialization, and years of teaching experience; (b) level of familiarity with artificial intelligence concepts and tools; (c) current use of AI applications in educational contexts; (d) perceptions of the potential benefits and challenges associated with AI in teaching and learning; and (e) teachers' professional development needs and training interests related to AI integration.

In order to ensure clarity, validity, and ease of completion, the questionnaire combined different types of questions. A significant number of items were formulated using **five-point Likert scales**, allowing respondents to express the degree of their agreement or disagreement with specific statements related to AI in education. These scales provided measurable data on attitudes, perceptions, and self-assessed competencies. In addition, **multiple-choice questions** were included to gather factual information about participants' experiences with AI tools, such as whether they had previously used applications like ChatGPT or other AI-based platforms, and in which contexts these tools were applied. The questionnaire also incorporated a limited number of **open-ended questions**, which enabled participants to

[7]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

provide more detailed insights, express personal views, and suggest ideas or concerns that could not be fully captured through closed-ended items.

Data collection was carried out among a sample of **90 teachers** drawn from the participating schools in the project's partner countries. The sample was intentionally diverse, including educators from different national contexts, subject areas, and levels of professional experience. This diversity was considered essential in order to obtain a more comprehensive and representative understanding of the current situation regarding AI use in education. By including participants with varying degrees of familiarity with digital technologies, the study was able to capture a wide spectrum of perspectives, ranging from early adopters of AI tools to teachers with limited prior exposure.

The administration of the questionnaire was conducted in a standardized manner to ensure consistency and reliability of the data. Participants were invited to complete the survey voluntarily, and anonymity was maintained in order to encourage honest and unbiased responses. The collected data were subsequently organized and prepared for analysis using descriptive statistical methods, including frequency distributions, percentages, and graphical representations. These methods allowed for the systematic interpretation of the results and the identification of key trends related to teachers' knowledge, attitudes, and training needs.

Overall, the chosen methodology provided a robust and reliable framework for addressing the research objectives of the project. By combining structured quantitative measures with opportunities for qualitative input, the study achieved a balanced approach that not only captures measurable patterns but also reflects the complexity of teachers' experiences and perceptions regarding the integration of artificial intelligence in education.

### 3. Results

The analysis of the questionnaire responses provides a comprehensive overview of teachers' level of familiarity with artificial intelligence (AI) technologies, as well as their attitudes toward the integration of AI tools in educational practice. By systematically examining the data collected from the participants, the study aims to identify prevailing patterns, common tendencies, and significant differences in teachers' perceptions, experiences, and readiness to adopt AI in the classroom. This analytical process is essential for understanding not only

[8]



**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

the current state of AI awareness among educators but also the factors that may facilitate or hinder its effective implementation in educational settings.

To achieve this, **descriptive statistical methods** were primarily employed. Descriptive statistics are particularly useful in survey-based research, as they allow for the organization, summarization, and clear presentation of large volumes of data in a meaningful and accessible way. In the context of this study, techniques such as **frequency distributions, percentages, and mean scores** were used to summarize participants' responses to both closed-ended and Likert-scale questions. These measures made it possible to quantify teachers' levels of familiarity with AI, their degree of agreement with statements regarding its benefits and risks, and their willingness to integrate AI tools into their teaching practices.

In addition, the use of descriptive statistics enabled the identification of **key trends and patterns** within the dataset. For example, it allowed for the observation of general tendencies, such as whether teachers tend to have positive or negative attitudes toward AI, the extent to which they are already using AI tools, and the level of demand for further professional development. By comparing response distributions across different questions, the analysis also highlighted areas of convergence, where teachers share similar views, as well as areas of divergence, where opinions differ significantly. These insights are particularly valuable for informing decision-making within the project, as they help to prioritize training needs and tailor educational interventions to the actual requirements of participants.

Furthermore, graphical representations such as bar charts and frequency diagrams were used to complement the statistical analysis and enhance the clarity of the findings. Visualizing the data in this way facilitates a more intuitive understanding of the results and supports the communication of key findings to a wider audience, including educators, project partners, and stakeholders.

Overall, the application of descriptive statistical analysis provided a solid foundation for interpreting the survey data. It enabled the transformation of raw responses into structured information, offering clear and evidence-based insights into teachers' familiarity with AI technologies, their attitudes toward their use in education, and their readiness to engage with AI-driven pedagogical innovation.

[9]

**KA210-SCH - Small-scale partnerships in school education  
Transforming Teaching Practice through Artificial Intelligence  
Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

### 3.1 Descriptive Statistics

#### Country

| Response    | Frequency |
|-------------|-----------|
| NETHERLANDS | 37        |
| GREECE      | 30        |
| CYPRUS      | 23        |

#### Gender

| Response | Frequency |
|----------|-----------|
| Female   | 58        |
| Male     | 32        |

#### Age

| Response | Frequency |
|----------|-----------|
| 41–60    | 59        |

[10]

**KA210-SCH - Small-scale partnerships in school education  
Transforming Teaching Practice through Artificial Intelligence  
Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

|       |    |
|-------|----|
| 26–40 | 23 |
| >60   | 7  |
| 18–25 | 1  |

**Years of teaching experience**

| Response | Frequency |
|----------|-----------|
| 21+      | 31        |
| 11–20    | 30        |
| 0–5      | 18        |
| 6–10     | 11        |

**How familiar do you feel with AI?**

| Response | Frequency |
|----------|-----------|
| 3        | 36        |
| 4        | 27        |
| 2        | 17        |

[11]

**KA210-SCH - Small-scale partnerships in school education  
Transforming Teaching Practice through Artificial Intelligence  
Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

|   |   |
|---|---|
| 1 | 6 |
| 5 | 4 |

**Are you already using AI or chatbots in your teaching?**

| Response | Frequency |
|----------|-----------|
| No       | 48        |
| Yes      | 42        |

**Does AI make our lives easier?**

| Response | Frequency |
|----------|-----------|
| 4        | 39        |
| 3        | 31        |
| 5        | 11        |
| 2        | 9         |

**Will AI replace education by human in the future?**

| Response | Frequency |
|----------|-----------|
|----------|-----------|

[12]

**KA210-SCH - Small-scale partnerships in school education  
Transforming Teaching Practice through Artificial Intelligence  
Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

|          |    |
|----------|----|
| No       | 53 |
| Not sure | 30 |
| Yes      | 7  |

**Are you concerned about the ethical implications of AI?**

| Response | Frequency |
|----------|-----------|
| 4        | 30        |
| 5        | 28        |
| 3        | 24        |
| 2        | 7         |
| 1        | 1         |

**Should there be laws regulating the use of AI?**

| Response | Frequency |
|----------|-----------|
| Yes      | 75        |
| Not sure | 13        |

[13]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

No 2

**AI can enhance students' learning experience.**

| Response | Frequency |
|----------|-----------|
| 4        | 36        |
| 3        | 35        |
| 5        | 11        |
| 2        | 7         |
| 1        | 1         |

**Chatbots can act as learning assistants.**

| Response | Frequency |
|----------|-----------|
| 3        | 45        |
| 4        | 28        |
| 5        | 9         |
| 2        | 7         |

[14]

**KA210-SCH - Small-scale partnerships in school education  
Transforming Teaching Practice through Artificial Intelligence  
Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

1

1

**I am concerned about the reliability of the information provided by AI.**

| Response | Frequency |
|----------|-----------|
| 4        | 39        |
| 3        | 28        |
| 5        | 19        |
| 2        | 3         |
| 1        | 1         |

**The use of AI can increase inequalities in the classroom.**

| Response | Frequency |
|----------|-----------|
| 3        | 43        |
| 4        | 22        |
| 2        | 13        |

[15]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

|   |   |
|---|---|
| 5 | 8 |
| 1 | 4 |

**I need more training to integrate AI into my teaching.**

| Response | Frequency |
|----------|-----------|
| 4        | 48        |
| 5        | 24        |
| 3        | 16        |
| 1        | 2         |

**How willing are you to integrate AI into your teaching?**

| Response   | Frequency |
|------------|-----------|
| Moderately | 36        |
| A lot      | 35        |
| A little   | 9         |

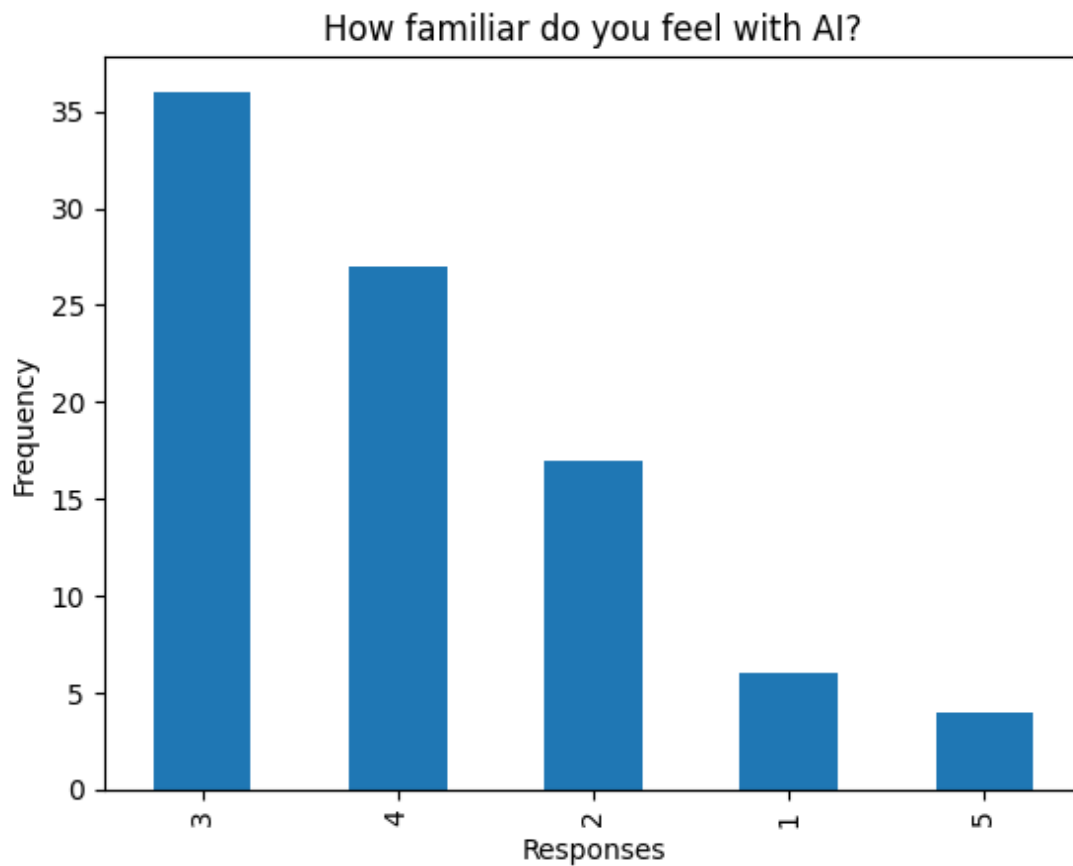
[16]



**KA210-SCH - Small-scale partnerships in school education  
Transforming Teaching Practice through Artificial Intelligence  
Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

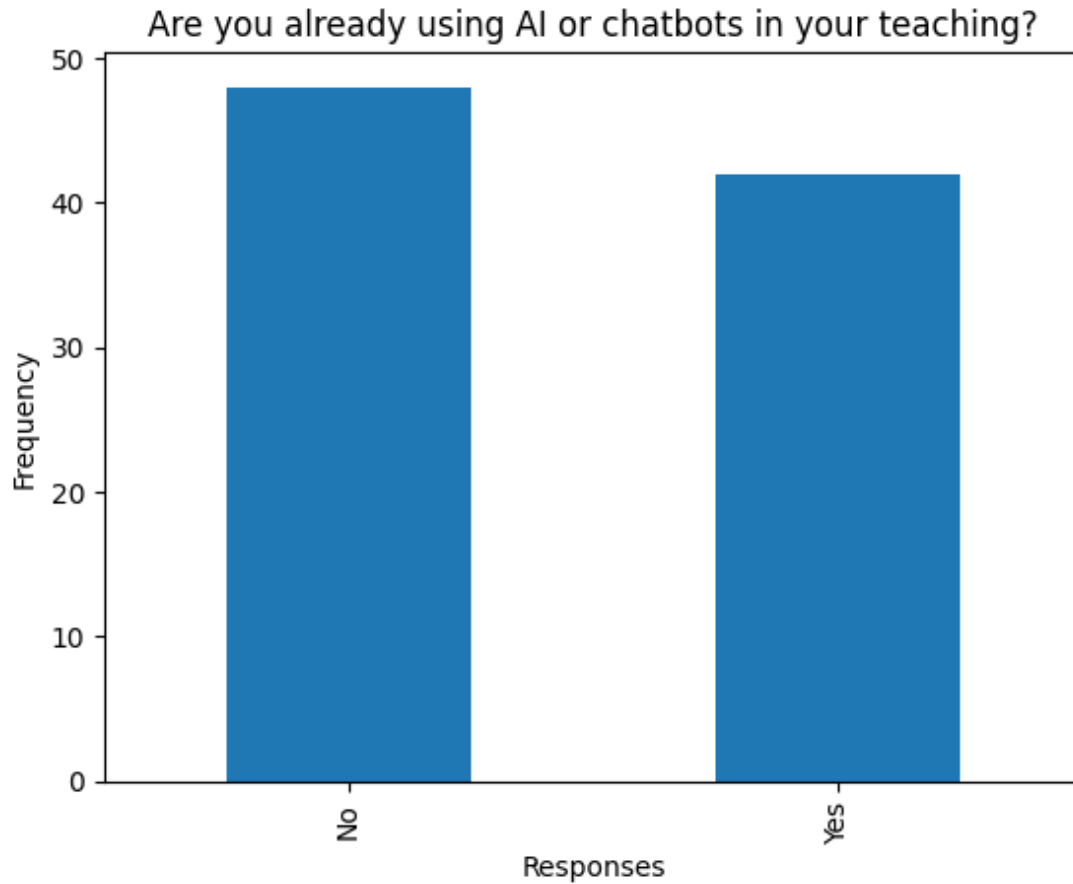
|            |   |
|------------|---|
| Completely | 7 |
| Not at all | 3 |

### 3.2 Graphical Analysis



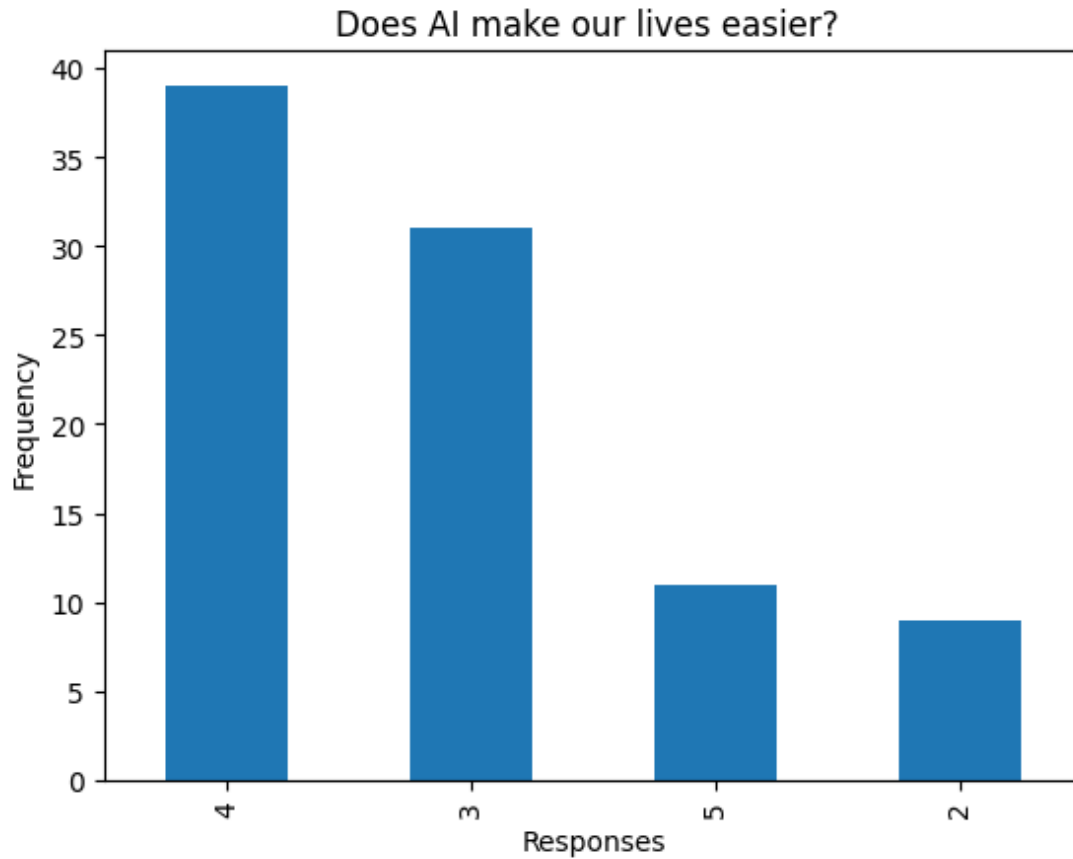
[17]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**



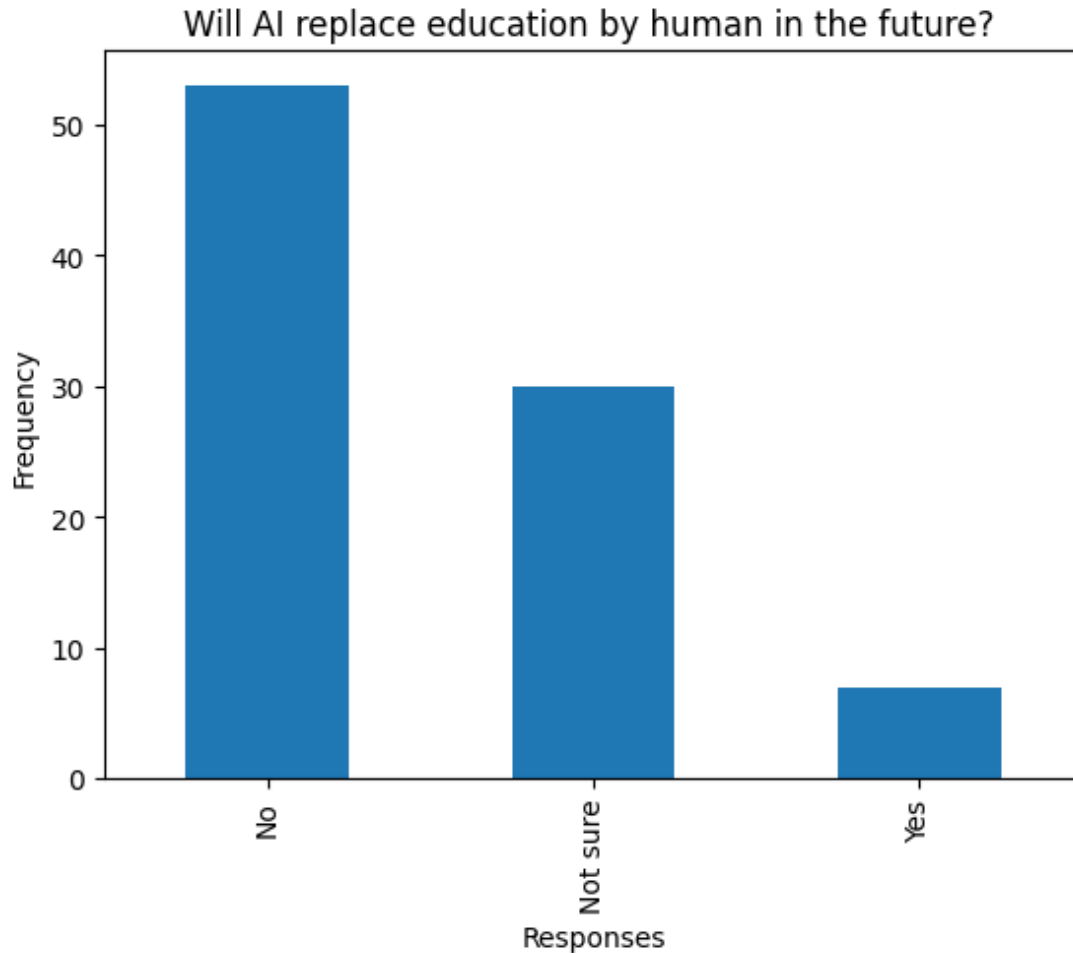
[18]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**



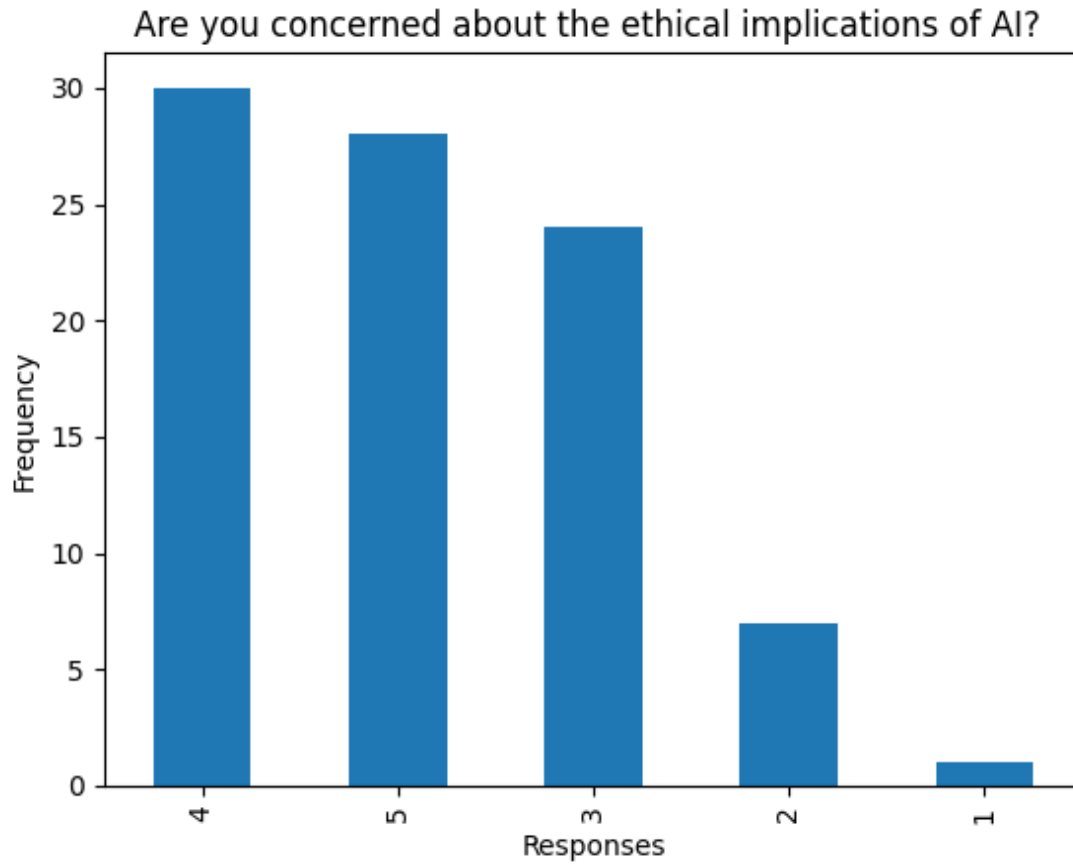
[19]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**



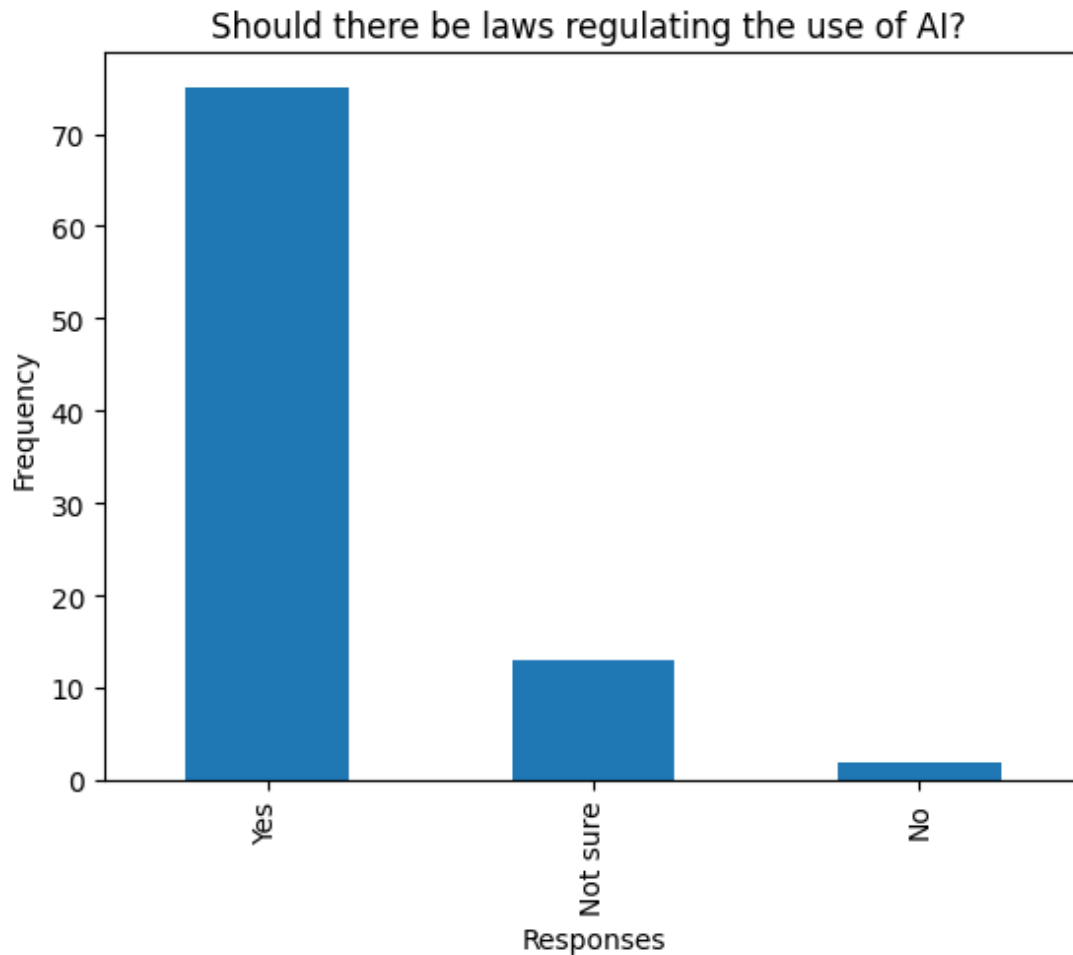
[20]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**



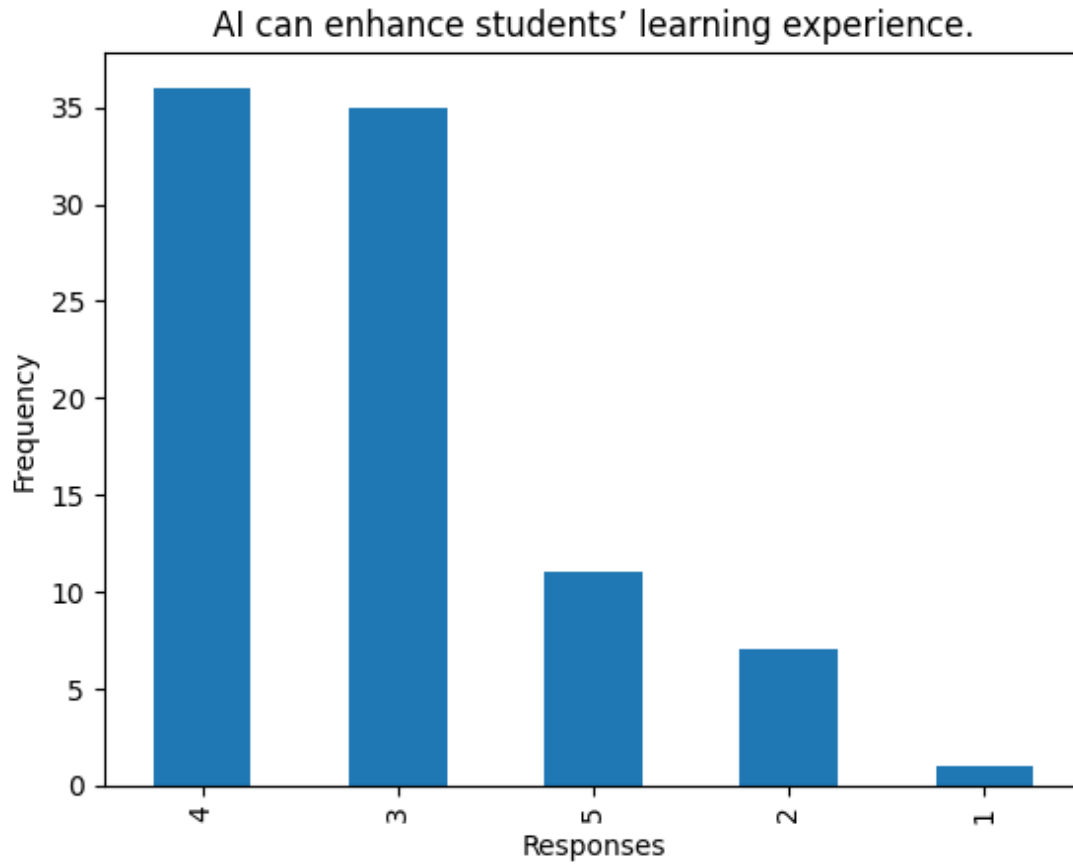
[21]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**



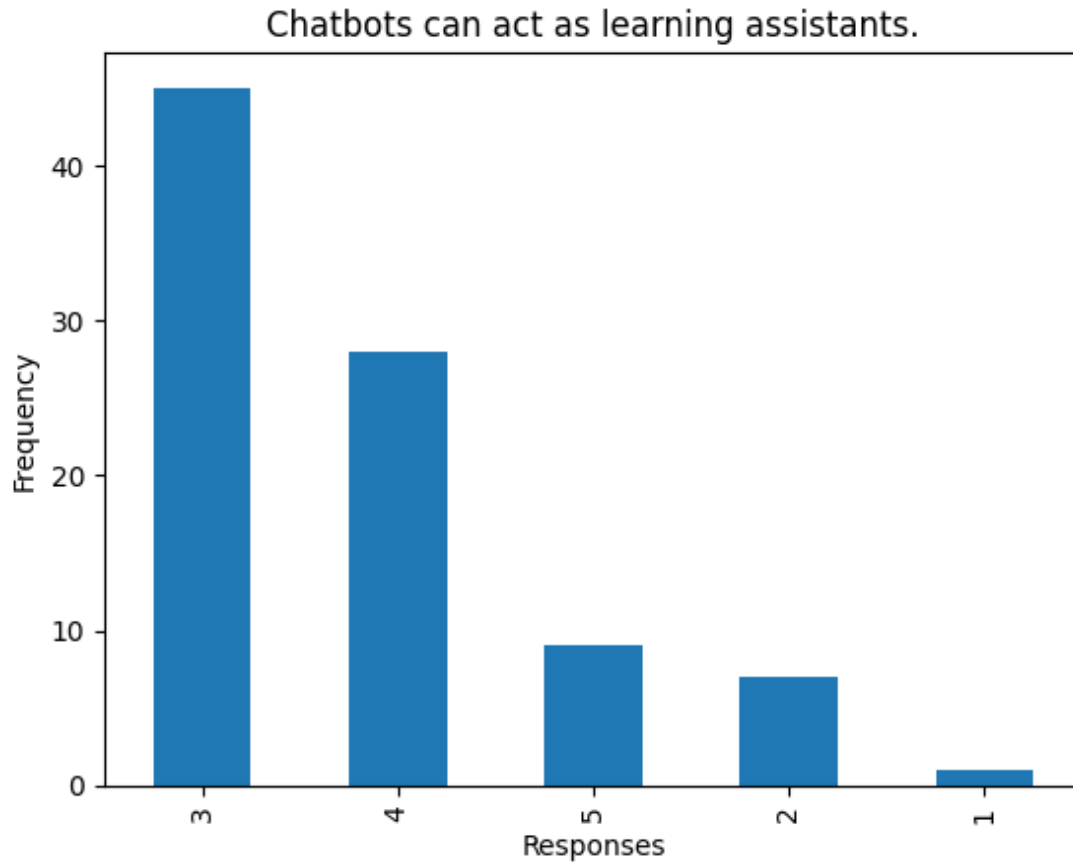
[22]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**



[23]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

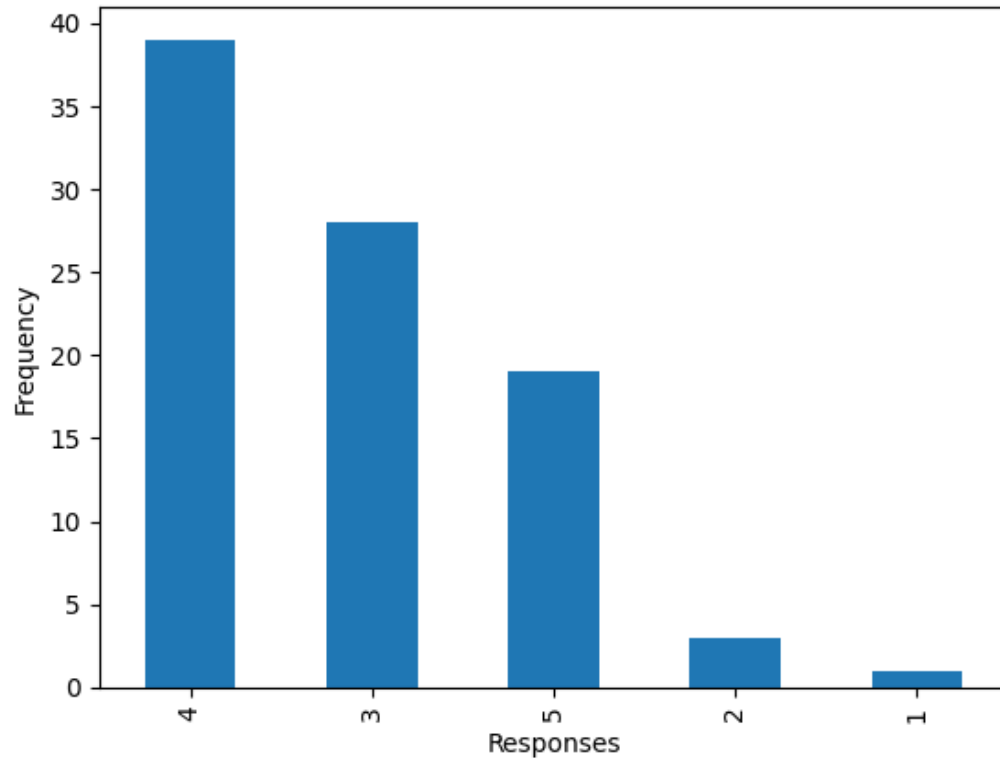


[24]



**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

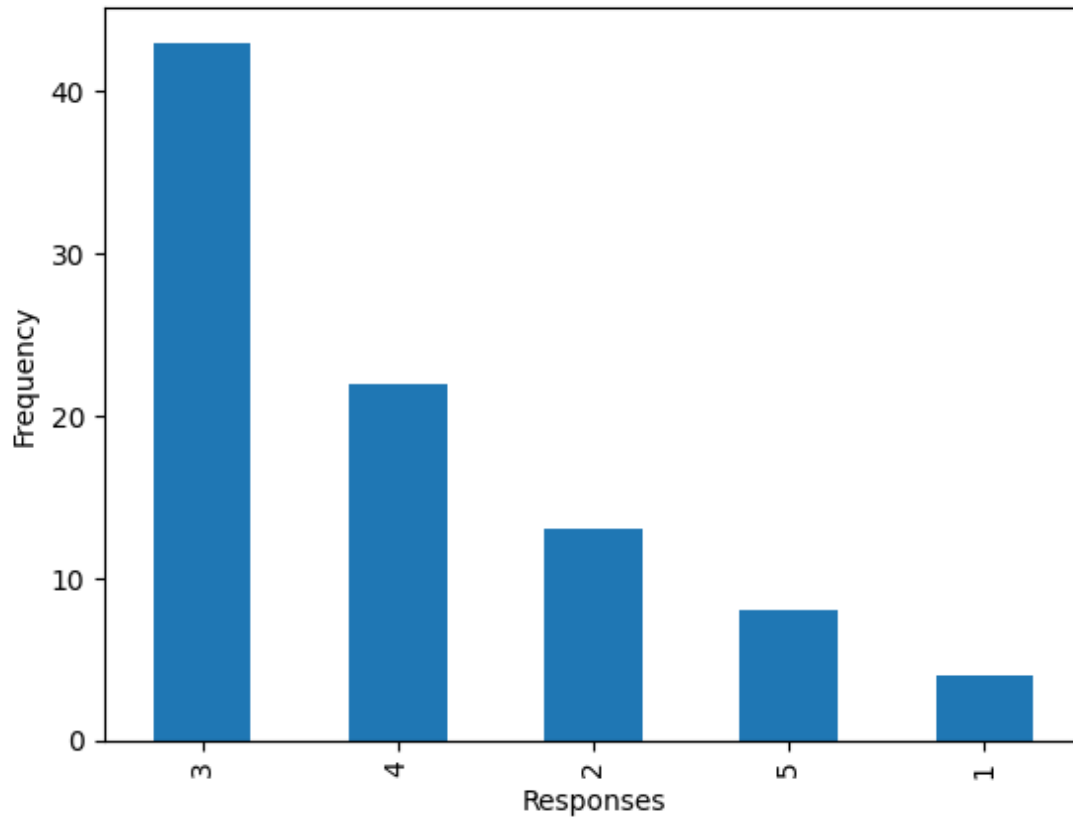
I am concerned about the reliability of the information provided by AI.



[25]

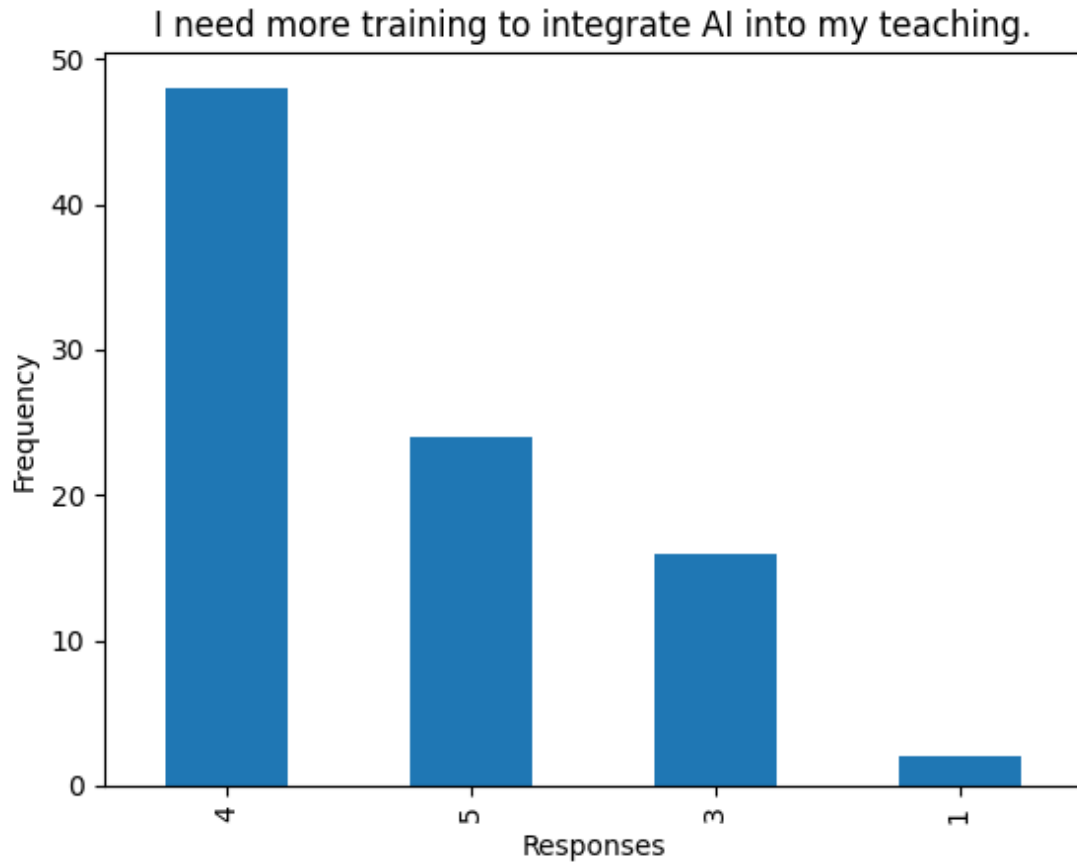
**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

The use of AI can increase inequalities in the classroom.



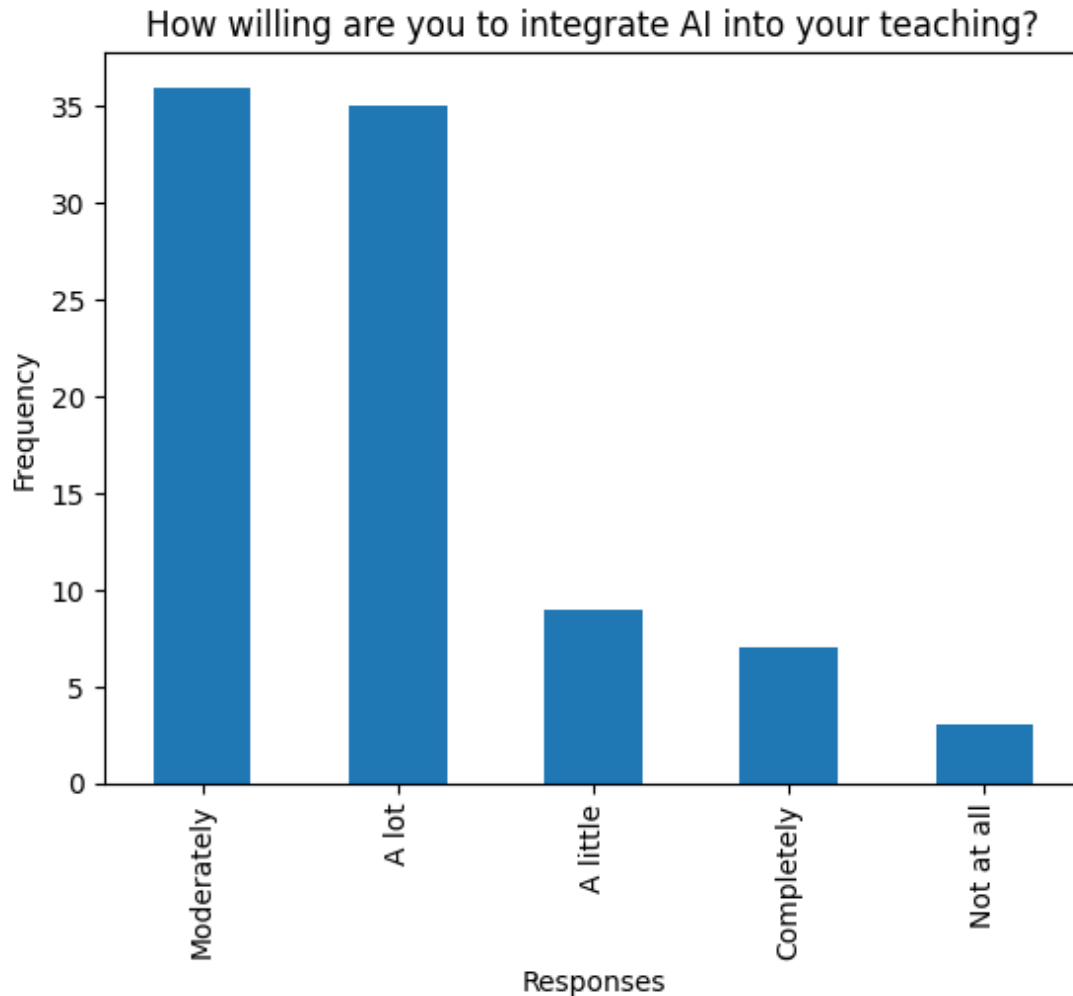
[26]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**



[27]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**



## 4. Discussion

The findings of the study indicate that teachers generally recognize and acknowledge the significant potential of artificial intelligence (AI) technologies to enhance educational processes and outcomes. A considerable proportion of respondents expressed positive attitudes toward the integration of AI in teaching and learning, suggesting an emerging openness among educators to adopt innovative digital tools in their professional practice. In particular, teachers agreed that AI can contribute to improving students' learning experiences

[28]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

by making them more engaging, interactive, and tailored to individual needs. This perception reflects an understanding of AI as a tool that can support more student-centered approaches to education, moving beyond traditional, one-size-fits-all teaching methods.

More specifically, respondents highlighted the role of AI in supporting **personalized learning**, where educational content, pace, and feedback can be adapted to the unique abilities, preferences, and progress of each learner. Technologies such as intelligent tutoring systems and AI-powered chatbots—such as ChatGPT—were perceived as particularly valuable in this regard, as they can provide immediate responses, explanations, and guidance to students outside the constraints of classroom time. This continuous availability of support can enhance students' autonomy, encourage independent learning, and help address learning gaps more effectively. In addition, AI tools can assist teachers in designing differentiated instructional materials and activities, thereby improving the overall inclusiveness and effectiveness of the learning environment.

Despite these positive perceptions, the findings also reveal the presence of important concerns and reservations among teachers regarding the use of AI in education. One of the most prominent issues relates to the **reliability and accuracy of AI-generated information**. Many respondents expressed uncertainty about the extent to which AI outputs can be trusted, particularly when used by students without adequate guidance or critical evaluation skills. This concern is especially relevant in the context of generative AI systems, which, while powerful, may produce incomplete, biased, or factually incorrect information. As a result, teachers emphasized the need for developing students' critical thinking skills and digital literacy in order to ensure the responsible use of such technologies.

In addition to reliability issues, **ethical considerations** emerged as a significant area of concern. Participants raised questions related to data privacy, the protection of personal information, and the ethical use of AI in educational contexts. There is also concern about academic integrity, particularly regarding the potential misuse of AI tools for completing assignments without genuine student effort. Furthermore, some teachers expressed apprehension about the broader implications of AI for the teaching profession, including the possibility of over-reliance on automated systems and the changing role of the teacher in AI-supported learning environments.

Another important issue identified in the findings is the potential impact of AI on **educational equity and inclusion**. While AI has the potential to support inclusive education by addressing diverse learning needs, there is also a risk that it may exacerbate existing inequalities if access to technology is uneven. Students from disadvantaged backgrounds may have limited access

[29]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

to digital devices, internet connectivity, or the necessary digital skills to effectively use AI tools. This digital divide could lead to unequal learning opportunities and outcomes, thereby reinforcing existing disparities within the education system.

Taken together, these concerns underline the necessity for **carefully planned and responsible implementation strategies** when integrating AI into educational settings. Teachers emphasized the importance of establishing clear guidelines and policy frameworks that regulate the use of AI in schools, ensuring that its application is ethical, transparent, and aligned with educational values. Such frameworks should address issues related to data protection, academic integrity, and equitable access, while also providing practical guidance for teachers on how to effectively incorporate AI into their pedagogical practices.

Overall, the findings suggest that while teachers are generally positive about the potential of AI in education, they also recognize the complexity of its integration and the need for a balanced approach. Maximizing the benefits of AI requires not only technological innovation but also strong pedagogical foundations, ethical awareness, and institutional support, ensuring that AI serves as a tool for enhancing education rather than creating new challenges or inequalities.

## 5. Teachers' Training Needs

One of the most significant and consistent findings of the study concerns the strong and clearly articulated demand for **professional development related to artificial intelligence (AI)** among participating teachers. The majority of respondents indicated that, despite having a basic awareness of AI tools and their potential applications, they do not feel sufficiently prepared to integrate these technologies effectively into their teaching practices. This perceived gap between awareness and practical competence highlights the need for structured and targeted training initiatives that can support teachers in moving from passive familiarity to active and confident use of AI in educational contexts.

More specifically, teachers expressed a need for **systematic professional development programs** that go beyond introductory knowledge and focus on the practical, pedagogical, and ethical dimensions of AI use in the classroom. Many respondents emphasized that current opportunities for training in AI are either limited or too general, often lacking direct relevance to real classroom situations. As a result, there is a clear expectation for training programs that

[30]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

are tailored to teachers' actual needs, subject areas, and levels of digital competence, allowing for differentiated learning pathways and hands-on experience with AI tools.

A key priority identified by participants is the development of skills related to the **practical application of AI in classroom settings**. Teachers are particularly interested in learning how to use AI tools to support lesson planning, generate educational content, design interactive activities, and provide personalized feedback to students. This includes the ability to effectively use platforms such as ChatGPT and similar tools in ways that enhance teaching rather than replace it. Practical training should therefore include real-life scenarios, examples of good practice, and opportunities for teachers to experiment with AI tools in a safe and guided environment.

In addition to practical skills, teachers highlighted the importance of addressing **ethical considerations** related to AI use in education. Training programs should include guidance on issues such as data privacy, responsible use of AI, transparency in AI-supported decision-making, and the prevention of misuse by students. Educators need to develop a clear understanding of the ethical implications of AI in order to create learning environments that are both innovative and aligned with fundamental educational values. This also includes fostering students' awareness of ethical issues and promoting responsible digital citizenship.

Another critical area identified in the findings is the need for developing teachers' ability to **critically evaluate AI-generated content**. Given that AI systems can produce information that is sometimes inaccurate, biased, or incomplete, it is essential for teachers to be able to assess the quality and reliability of such outputs before incorporating them into their teaching. This requires not only technical familiarity with AI tools but also strong critical thinking skills and a solid understanding of subject content. Training should therefore focus on helping teachers develop strategies for verifying information, identifying potential biases, and guiding students in the critical use of AI technologies.

Furthermore, participants emphasized the importance of learning how to design and implement **AI-supported learning activities** that promote active engagement, creativity, and higher-order thinking skills. Rather than using AI merely as a supplementary tool, teachers are interested in exploring ways to integrate it meaningfully into the learning process. This includes designing activities that encourage collaboration between students and AI systems, using AI for problem-solving tasks, and incorporating AI into project-based and inquiry-based learning approaches. Such practices can help transform the classroom into a more dynamic and interactive learning environment.

[31]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

Overall, the strong demand for professional development identified in this study underscores the central role of teachers in the successful integration of AI in education. It also highlights the need for a **comprehensive and holistic approach to teacher training**, one that combines technical skills, pedagogical strategies, and ethical awareness. By addressing these interconnected dimensions, training programs can empower teachers to use AI confidently, responsibly, and effectively, ultimately contributing to the improvement of teaching quality and student learning outcomes.

## 6. Recommendations

Based on the findings of the study, a number of well-founded recommendations can be proposed in order to support the effective, responsible, and sustainable integration of artificial intelligence (AI) into educational practice. These recommendations are directly aligned with the identified needs, challenges, and opportunities highlighted by participating teachers and aim to provide a strategic framework for future actions within the Erasmus+ project and beyond.

### 1. Development of structured teacher training programs focusing on AI literacy

A key priority emerging from the study is the need to design and implement **comprehensive and structured training programs** that enhance teachers' AI literacy. Such programs should go beyond basic technical knowledge and aim to develop a multidimensional understanding of AI, including its pedagogical applications, limitations, and implications for teaching and learning. Training initiatives should be modular and progressive, allowing teachers with different levels of prior experience to participate effectively. They should include hands-on workshops, practical case studies, and opportunities for experimentation with tools such as ChatGPT. In addition, these programs should emphasize real classroom applications, enabling teachers to directly transfer acquired knowledge into their teaching practice.

### 2. Integration of AI-related topics into teacher professional development frameworks

In order to ensure long-term impact and sustainability, AI-related competencies should be systematically embedded into existing **teacher professional development frameworks** at both institutional and national levels. This integration would ensure that AI is not treated as a temporary or isolated innovation but as a core component of modern teaching competence. Professional development programs should include continuous learning opportunities, mentoring systems, and communities of practice that support teachers in developing and

[32]



**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

updating their skills over time. Furthermore, alignment with broader European digital competence frameworks (such as DigCompEdu) can enhance coherence and policy relevance.

**3. Creation of practical guidelines for the responsible use of AI in schools**

The study highlights the importance of establishing clear and accessible **guidelines for the ethical and responsible use of AI** in educational contexts. These guidelines should address key issues such as data privacy, transparency, academic integrity, and the appropriate use of AI by both teachers and students. They should also provide concrete examples of acceptable and unacceptable practices, helping educators navigate complex situations with confidence. In addition, schools should develop internal policies that reflect these principles and ensure consistency in AI use across different subjects and classrooms. Such guidelines will contribute to building trust in AI technologies and promoting their safe and effective adoption.

**4. Encouragement of collaborative experimentation with AI tools in classroom practice**

Another important recommendation is to foster a culture of **collaborative experimentation and innovation** among teachers. Schools should encourage educators to explore AI tools in a supportive environment where they can share experiences, exchange ideas, and learn from one another. This can be achieved through professional learning communities, peer observation, joint lesson planning, and pilot projects focused on AI integration. Collaborative approaches not only reduce the uncertainty associated with adopting new technologies but also promote the dissemination of good practices. By working together, teachers can develop more creative and effective ways of using AI to enhance student learning.

**5. Continuous evaluation of AI-supported teaching interventions**

Finally, it is essential to establish mechanisms for the **continuous evaluation and monitoring** of AI-supported teaching practices. This includes collecting data on the effectiveness of AI tools in improving learning outcomes, student engagement, and teaching efficiency. Evaluation should be both quantitative and qualitative, incorporating feedback from teachers and students as well as performance indicators. The results of these evaluations should be used to refine training programs, improve instructional strategies, and inform policy decisions. Continuous evaluation ensures that AI integration remains aligned with educational goals and allows for evidence-based improvements over time.

---

Overall, these recommendations emphasize the need for a **strategic, holistic, and sustainable approach** to AI integration in education. By combining targeted training, policy development, collaborative practices, and ongoing evaluation, educational institutions can create an

[33]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

environment in which AI technologies are used effectively to support both teachers and learners.

## 7. Conclusion

Artificial intelligence has the potential to significantly transform teaching and learning processes, reshaping not only the tools used in education but also the underlying pedagogical approaches and the roles of both teachers and students. By enabling personalized learning, supporting adaptive instruction, and facilitating access to a wide range of digital resources, AI can contribute to more flexible, inclusive, and effective educational environments. At the same time, it offers opportunities to reduce administrative workload, enhance assessment practices, and support data-driven decision-making within schools. However, the realization of these benefits is not automatic; it depends fundamentally on teachers' ability to understand, critically evaluate, and effectively use AI technologies within meaningful pedagogical contexts.

In this regard, teachers play a central and irreplaceable role as mediators between technology and learning. Their level of digital competence, pedagogical readiness, and confidence in using AI tools directly influences the extent to which these technologies can be successfully integrated into classroom practice. It is therefore essential that teachers are not only familiar with AI tools—such as ChatGPT—but also capable of using them in ways that align with curriculum goals, support student engagement, and foster higher-order thinking skills. Equally important is the development of critical awareness, enabling teachers to recognize the limitations, risks, and ethical implications associated with AI, including issues related to data privacy, bias, and the reliability of AI-generated content.

The findings of this research provide a valuable and evidence-based baseline for the implementation of the Erasmus+ project. By systematically capturing teachers' current levels of knowledge, attitudes, and training needs, the study establishes a clear starting point against which future progress can be measured. This baseline is particularly important for assessing the effectiveness of subsequent project activities,

[34]

**KA210-SCH - Small-scale partnerships in school education**  
**Transforming Teaching Practice through Artificial Intelligence**  
**Ref. Number: ERASMUS+ 2025-1-CY01-KA210-SCH-00036092**

as it allows for the monitoring of changes in teachers' competencies, confidence, and classroom practices over time. In this sense, the research not only informs the design of interventions but also contributes to the evaluation framework of the project.

Furthermore, the results of the study will directly support the development of **targeted and needs-based interventions** aimed at strengthening teachers' digital competence in the area of artificial intelligence. These interventions may include structured training programs, the creation of educational resources, and the implementation of pilot activities that encourage the practical application of AI in teaching. By aligning these actions with the specific needs identified through the research, the project can ensure a higher level of relevance, effectiveness, and impact.

At a broader level, the promotion of innovative pedagogical practices supported by AI represents a key objective of the project. The integration of AI technologies has the potential to move teaching beyond traditional methods and towards more dynamic, interactive, and student-centered approaches. This includes the use of AI for personalized learning pathways, collaborative problem-solving, and creative knowledge production. By equipping teachers with the necessary skills and confidence to adopt such approaches, the project contributes to the development of more resilient and future-oriented educational systems.

In conclusion, while artificial intelligence offers significant opportunities for enhancing education, its successful integration requires a balanced and strategic approach that combines technological innovation with pedagogical development and ethical responsibility. The findings of this research underline the importance of supporting teachers as key agents of change and provide a solid foundation for the design and implementation of impactful project activities within the Erasmus+ framework.

[35]