



STIAEM

Slow Tech Innovation

AI, Ethics and
New Teaching Methods

DATA COLLECTION



Università di Foggia
Studi Umanistici, Lettere, Beni Culturali,
Scienze della Formazione



İSTANBUL - ESENLER
İLÇE MİLLİ EĞİTİM MÜDÜRLÜĞÜ



1474



Co-funded by
the European Union

2025-1-IT02-KA220-SCH-000365213

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PROJECT STIAEM INFORMATION

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DATA COLLECTION

1. Introduction

This protocol defines the operational architecture for the data collection of Work Package 2 (WP2), outlining the rigorous methodological criteria necessary to map the digital competencies and the “Slow Tech Attitude” of teachers and students. The primary objective of this phase lies in the construction of a solid and scientifically validated empirical foundation, an indispensable component for informing and guiding the development of the future STIAEM Pedagogical Model.

The protocol ensures the harmonization of survey instruments and operational procedures across the five partner countries: Italy, Spain, Turkey, Greece, and Lithuania. In this perspective, the central goal extends beyond the simple application of the “Slow Tech” framework; rather, it aims at its dynamic evolution through a critical, ethical, and conscious integration of Artificial Intelligence within educational contexts. This evolution seeks to consolidate the paradigm of balance between digital innovation and pedagogical responsibility that represented the core identity and primary strength of the approved project proposal.

The research adopts a Mixed Methods design, structured to converge quantitative and qualitative data into a unified, coherent, and scientifically robust analytical framework. This approach allows the study to transcend the dichotomy between numbers and narratives, ensuring a holistic understanding of the complex interaction between artificial intelligence and the European school ecosystem.

The extensive quantitative phase is designed to identify general trends and map digital competence levels across a vast and diverse sample of participants in all consortium countries. The quantitative survey phase employs standardized surveys for teachers and students, constructed by integrating validated psychometric scales with specific indicators designed for the research objectives. For the teaching staff, the instrument centers on the *Teachers’ Perception Scale Towards the Use of AI Tools*, while for the student population, the *Artificial Intelligence Literacy Questionnaire* (AILQ) is employed. Both toolkits have been augmented with *ad hoc* items aimed at measuring the digital competencies defined by the DigComp 3.0 framework, ensuring rigorous alignment with European reference standards. Finally, to mitigate social desirability bias and deepen the ethical dimension, “dilemmatic items” (Situational Dilemmas) have been introduced; these scenarios compel participants to confront critical and realistic choices, allowing for the detection of authentic attitudes and the real propensity towards the “Slow Tech Attitude” in daily school life.

In a subsequent phase, the intensive qualitative investigation aims to explore in depth the ethical and pedagogical barriers that often remain imperceptible to purely statistical tools. Through the methodological integration of focus groups, co-design workshops, and semi-structured interviews, the research activity seeks to activate critical reflection processes, employing the Situational Dilemmas (SD) previously introduced in the surveys as stimulus devices.

This approach allows for an analytical examination of the modalities through which the “Slow Tech Attitude” manifests in the real-world, daily decisions of educational stakeholders, transforming numerical data into a dense pedagogical narrative. This interpretative dimension is fundamental for understanding not only the phenomenological evidence within educational contexts but, above all, the determinants of resistance or receptiveness toward Artificial Intelligence, thereby fostering a technological integration that is genuinely conscious, ethical, and sustainable.

It is crucial to specify that the intensive qualitative phase will be structured and operationalized only following the processing and analysis of the quantitative data. This methodological sequentiality, typical of sequential explanatory research designs, aims to delineate with greater precision the evidence emerging from the statistical analyses.

Consequently, qualitative instruments—such as focus group guides and co-design workshop protocols—will not be rigidly predefined; rather, they will be oriented toward the targeted exploration

of specific trends, competence gaps, or attitudinal paradoxes detected through the surveys. This approach ensures that the qualitative phase serves as a critical investigative mechanism to “explain” the numerical data, guaranteeing that the subsequent triangulation produces an interpretative synthesis of high scientific value.

This strategy allows for the formulation of a pedagogical model that is not only theoretically valid but also capable of responding to specific challenges and resistances emerging from the field, integrating AI into the school context in a manner that is organic and consistent with the actual needs of teachers and students.

Finally, the added value of the protocol lies in data triangulation—specifically, the systematic cross-referencing of evidence from both phases to eliminate interpretative bias and ensure the maximum robustness of the results.

2. Teachers' Questionnaire

Unique code	English item
TP_01	In which country is your school located?
	Greek Lithuania Italy Spain Turkey
TP_02	What is your gender?
	Female Male Prefer not to say
TP_03	What is your age group?
	Under 25 25–34 35–44 45–54 55 or older
TP_04	How many years of teaching experience do you have?
	Less than 5 years 5–15 years 16–25 years More than 25 years
TP_05	At which school level do you primarily teach?
	Lower Secondary School (Middle School / ISCED 2) Upper Secondary School (High School / ISCED 3) Vocational / Technical School (ISCED 3) Other
TP_06	What is your main subject area?
	STEM (Mathematics, Physics, Chemistry, Biology, Technology, IT) Humanities & Arts (Literature, History, Philosophy, Foreign Languages, Art) Social Sciences (Geography, Economics, Law, Psychology) Physical Education - Support / Special Needs Education
TP_08	Which statement best describes your relationship with technology in the classroom?
	I avoid it when possible; it often distracts students. I use it mainly for administrative tasks or basic presentations.

	I regularly use it to support my lectures (e.g., videos, digital boards). I constantly experiment with new apps, hybrid methods, and AI tools.
TCH_COMP_01	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I can use artificial intelligence tools easily.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_02	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I can identify appropriate AI tools to evaluate students' performance.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_03	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I have sufficient knowledge and skills in the use of artificial intelligence tools.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_04	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I can design efficient learning environments using artificial intelligence tools.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_05	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I have the necessary knowledge and skills to integrate artificial intelligence tools into my future courses.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_06	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I can prepare course content using artificial intelligence tools.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_07	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): for each achievement, I can decide which artificial intelligence tool can be used more effectively.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_08	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I know how to get support from artificial intelligence tools to solve any problem I encounter.
	Strongly disagree 1 2 3 4 5 Strongly agree

TCH_COMP_09	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I am careful to use artificial intelligence tools in a way that ensures active participation of students in the lesson.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_10	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I am ready to produce teaching materials using artificial intelligence tools.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_11	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I follow artificial intelligence tools that will contribute to my professional development.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_12	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I get support from artificial intelligence tools to carry out in-class activities.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_13	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I follow the developments regarding artificial intelligence tools closely.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_14	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I consider the relevant learning outcomes when choosing the artificial intelligence tools I will use.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_15	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I can access information faster with artificial intelligence tools.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_16	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I get support from artificial intelligence tools to solve a problem I encounter in daily life.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_17	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I am willing to prepare teaching materials using artificial intelligence tools.

	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_18	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I attend seminars and events about new artificial intelligence tools to improve myself.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_19	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I believe that it is necessary to use artificial intelligence tools for the courses I will teach.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_20	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): Artificial intelligence tools save time in completing my work.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_21	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I think artificial intelligence tools will save time.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_COMP_22	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I think artificial intelligence tools are important for education.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_ANX_23	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): the use of artificial intelligence tools in education negatively affects students' attitudes towards the lesson.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_ANX_24	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): the use of artificial intelligence tools in education negatively affects students' academic success.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_ANX_25	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I think artificial intelligence tools will reduce the quality of the education I provide.
	Strongly disagree 1 2 3 4 5 Strongly agree

TCH_ANX_26	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): the use of artificial intelligence tools in education can make the learning process boring.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_ANX_27	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): the use of artificial intelligence tools in education concerns me.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_ANX_28	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I think artificial intelligence tools are not suitable for me.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_ANX_29	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I do not use artificial intelligence tools unless necessary.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_ANX_30	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I think that the use of artificial intelligence tools in education will increase the success of students.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_UTIL_31	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I think that evaluations made with artificial intelligence tools will provide more accurate information about students' learning processes.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_UTIL_32	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): Artificial intelligence tools are useful for daily life.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_UTIL_33	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I use artificial intelligence tools to guide students.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_UTIL_34	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I enable students to evaluate their own learning processes using artificial intelligence tools.

	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_UTIL_35	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): the use of artificial intelligence tools increases my chances of solving the problems I encounter.
	Strongly disagree 1 2 3 4 5 Strongly agree
TCH_UTIL_36	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): the use of artificial intelligence tools increases my productivity.
	Strongly disagree 1 2 3 4 5 Strongly agree
DIG_INF_1.1	Please indicate your level of agreement with the following statement using the scale from 1 (Not at all capable) to 5 (Fully capable): how capable do you feel of searching for information online using using advanced strategies (e.g., operators, filters) rather than just the first page of Google?
	Not at all capable 1 2 3 4 5 Fully capable
DIG_SAF_4.2	Please indicate your level of agreement with the following statement using the scale from 1 (Not at all capable) to 5 (Fully capable): how well can you manage privacy settings on social media and protect your sensitive data online?
	Not at all capable 1 2 3 4 5 Fully capable
DIG_INF_1.2	Please indicate your level of agreement with the following statement using the scale from 1 (Not at all capable) to 5 (Fully capable): how capable do you feel of distinguishing fake news from real news and verifying the reliability of a source?
	Not at all capable 1 2 3 4 5 Fully capable
DIG_SAF_4.3	Please indicate your level of agreement with the following statement using the scale from 1 (Not at all capable) to 5 (Fully capable): how capable do you feel of avoiding “technostress” and maintaining a healthy balance between online and offline life?
	Not at all capable 1 2 3 4 5 Fully capable
DIG_CRE_3.4	Please indicate your level of agreement with the following statement using the scale from 1 (Not control at all) to 5 (Full control): to what extent do you understand the logic behind how programs or AI algorithms work (e.g., how ChatGPT “thinks”)?
	Not control at all 1 2 3 4 5 Full control
DIG_COM_2.6	Please indicate your level of agreement with the following statement using the scale from 1 (Not control at all) to 5 (Full control): how much do you feel in control of your online reputation and the digital traces you leave on social media?

	Not control at all 1 2 3 4 5 Full control
DIG_SAF_4.4	Please indicate your level of agreement with the following statement using the scale from 1 (Not control at aware) to 5 (Fully aware): how aware are you of the environmental impact of technologies (consumption, waste) and able to adopt sustainable behaviors?
	Not control at aware 1 2 3 4 5 Fully aware
DIG_PRO_5.4	Please indicate your level of agreement with the following statement using the scale from 1 (Not control at aware) to 5 (Fully aware): how aware are you of what you cannot do digitally and how you could learn it (updating/upskilling)?
	Not control at aware 1 2 3 4 5 Fully aware
SD01	The school provides access to an advanced AI assistant that generates detailed lesson plans, visually appealing slides, and personalized assessments in seconds. The materials produced by the AI are objectively of high quality, often better and more up-to-date than those you could produce yourself in the limited time available. However, by using them, you realize you are gradually losing deep mastery of the content and your personal touch on your teaching.
	A) I use AI to produce all teaching materials. My role evolves: I am no longer a content creator, but a facilitator managing efficient resources for the students' benefit. B) I use AI to generate the "draft" or structure of the lessons to save time, but I dedicate time to reviewing and inserting personal anecdotes to "humanize" the content. C) I use AI only for brainstorming or finding sources, but I write the lessons and create the slides personally. I believe that the teacher's creative effort is the only way to convey true passion. D) I avoid using AI for planning. I prefer lessons that may be visually less "spectacular," but are built entirely on my experience and the direct relationship with the class, without algorithmic intermediaries.
SD02	Your school introduces a 24/7 'AI Tutor' for students to use at home. The system is extremely effective: it explains concepts with infinite patience, personalizes exercises, and students' test scores are visibly improving. However, you notice a significant side effect: students have stopped coming to you for help, questions, or guidance. The direct human relationship and the 'educational alliance' between teacher and student are being replaced by an efficient machine-student interaction.
	A) I fully support the tool. If students are learning better and faster, the method doesn't matter. It frees me from repetitive explanations, allowing me to focus on assessment. B) I embrace the AI Tutor but redefine my role. I use class time exclusively for debates and group work, accepting that the 'transfer of knowledge' is now delegated to the AI.

	C) I limit the use of the AI Tutor. I require students to discuss their doubts with me first, because I believe that the emotional connection and the struggle of learning together are more important than efficient performance. D) I advise against using it. I believe that frustration and waiting for an answer are part of the growth process. A machine cannot offer the empathy and role-modeling that are the core of true education.
SD03	You assign a take-home essay. A student submits an excellent paper but honestly admits to using ChatGPT to generate the logical structure and polish the style, although they wrote the core content themselves. The school policy is unclear on this matter.
	A) I evaluate it positively: he used an available tool intelligently to improve his output. It is a future skill. B) I accept it, but with a grade penalty because part of the cognitive work (the structure) was delegated to the machine. C) I ask him to redo it without AI: the goal of school is to learn how to structure thinking independently, not to use a cognitive “prosthesis.” D) I consider it plagiarism/cheating: AI should have no role in producing assignments meant to assess skills.

The translated questionnaires are available at the following links:

Greece: <https://forms.gle/U6VnUTyb9wGmkhsB7>

Italy: <https://forms.gle/UwhU7H8LynZPcTV68>

Lithuania: <https://forms.gle/JK5kW3asb6BGbB397>

Spain: <https://forms.gle/d2EMBNUbQSvaXrq89>

Turkey: <https://forms.gle/vtGdN51tkLVCfZvm6>

3. Students' Questionnaire

Unique code	English item
SP_01	In which country is your school located?
	Greek Lithuania Italy Spain Turkey
SP_02	What is your gender?
	Female Male Prefer not to say
SP_03	How old are you?
	11 12 13 14 15 16 17 18 19 20
SP_07	Have you ever used Artificial Intelligence tools (like ChatGPT, Gemini, Copilot, Translation apps) for schoolwork?
	No, never. Yes, but only once or twice out of curiosity. Yes, sometimes for translations or ideas. Yes, I use them regularly for homework.
SP_08	In your opinion, using AI to do homework is...
	It's like copying from a classmate. It helps me finish faster, even if I learn less. It helps me understand things I didn't get in class. It's like a calculator; useful if you know how to use it.
AILQ_IM01	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): Artificial intelligence is relevant to my everyday life (e.g., personal, work).
	Strongly disagree 1 2 3 4 5 Strongly agree

AILQ_IM02	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): learning AI is interesting.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_IM03	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): learning AI makes my everyday life more meaningful.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_IM04	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I am curious about discovering new AI technologies.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_SE01	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I am confident I will perform well on AI related tasks.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_SE02	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I am confident I will do well on AI related projects.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_SE03	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I believe I can master AI knowledge and skills.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_SE04	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I believe I can earn good grades in AI related assessments.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_CL01	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I can understand AI related resources/ tools.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_CL03	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I feel confident that I will do well in the AI related tasks.
	Strongly disagree 1 2 3 4 5 Strongly agree

AILQ_BI01	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I will continue to use AI in the future
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_BI02	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I will keep myself updated with the latest AI technologies.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_BI03	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I plan to spend time exploring new features of AI applications in the future.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_EN01	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I actively participate in AI-related learning activities.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_EN02	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I am dedicated to AI-related learning materials.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_SI01	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I often try to explain the AI learning materials to my classmates or friends.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_SI02	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I try to work with my classmates to complete AI learning tasks and projects.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_SI03	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I often spend spare time discussing AI with my classmates.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_KU01	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I know what AI is and recall the definitions of AI.
	Strongly disagree 1 2 3 4 5 Strongly agree

TAILQ_KU02	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I know how to use AI applications (e.g., Siri, chatbot).
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_KU05	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I can compare the differences between AI concepts (e.g., deep learning, machine learning).
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_EC01	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I can apply AI applications to solve problems.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_EC03	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I can create AI-driven solutions (e.g., chatbots, robotics) to solve problems.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_EC04	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I can evaluate AI applications and concepts for different situations.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_AIE02	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I understand how misuse of AI could result in substantial risk to humans.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_AIE05	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I think that AI systems need to be subjected to rigorous testing to ensure they work as expected.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_AIE07	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I think that users are responsible for considering AI design and decision processes.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_AIE08	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I think that AI systems should benefit everyone, regardless of physical abilities and gender.
	Strongly disagree 1 2 3 4 5 Strongly agree

AILQ_AIE10	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I think that users should be made aware of the purpose of the system, how it works and what limitations may be expected.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_AIE11	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I think that people should be accountable for using AI systems.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_AIE12	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): I think that AI systems should meet ethical and legal standards.
	Strongly disagree 1 2 3 4 5 Strongly agree
AILQ_AIE13	Please indicate your level of agreement with the following statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): think that AI can be used to help disadvantaged people.
	Strongly disagree 1 2 3 4 5 Strongly agree
DIG_INF_1.1	Please indicate your level of agreement with the following statement using the scale from 1 (Not at all capable) to 5 (Fully capable): how capable do you feel of searching for information online using advanced strategies (e.g., operators, filters) rather than just the first page of Google?
	Not at all capable 1 2 3 4 5 Fully capable
DIG_INF_1.2	Please indicate your level of agreement with the following statement using the scale from 1 (Not at all capable) to 5 (Fully capable): how capable do you feel of distinguishing fake news from real news and verifying the reliability of a source?
	Not at all capable 1 2 3 4 5 Fully capable
DIG_SAF_4.1	Please indicate your level of agreement with the following statement using the scale from 1 (Not at all capable) to 5 (Fully capable): how capable do you feel of protecting your devices (PC, smartphone) from viruses, malware, and unwanted access?
	Not at all capable 1 2 3 4 5 Fully capable
DIG_SAF_4.2	Please indicate your level of agreement with the following statement using the scale from 1 (Not at all capable) to 5 (Fully capable): how well can you manage privacy settings on social media and protect your sensitive data online?
	Not at all capable 1 2 3 4 5 Fully capable

DIG_SAF_4.3	Please indicate your level of agreement with the following statement using the scale from 1 (Not at all capable) to 5 (Fully capable): how capable do you feel of avoiding “technostress” and maintaining a healthy balance between online and offline life?
	Not at all capable 1 2 3 4 5 Fully capable
DIG_SAF_4.5	Please indicate your level of agreement with the following statement using the scale from 1 (Not at all capable) to 5 (Fully capable): how capable do you feel of extending the life of your devices to reduce e-waste?
	Not at all capable 1 2 3 4 5 Fully capable
DIG_PRO_5.3	Please indicate your level of agreement with the following statement using the scale from 1 (Not at all capable) to 5 (Fully capable): how capable do you feel of using technology creatively to innovate or solve problems in an original way?
	Not at all capable 1 2 3 4 5 Fully capable
DIG_COM_2.6	Please indicate your level of agreement with the following statement using the scale from 1 (Not at all capable) to 5 (Fully capable): how capable do you feel of avoiding “technostress” and maintaining a healthy balance between online and offline life?
	Not at all capable 1 2 3 4 5 Fully capable
DIG_CRE_3.4	Please indicate your level of agreement with the following statement using the scale from 1 (Not control at all) to 5 (Full control): to what extent do you understand the logic behind how programs or AI algorithms work (e.g., how ChatGPT “thinks”)?
	Not control at all 1 2 3 4 5 Full control
DIG_SAF_4.4	Please indicate your level of agreement with the following statement using the scale from 1 (Not control at aware) to 5 (Fully aware): how aware are you of the energy consumption of AI?
	Not control at aware 1 2 3 4 5 Fully aware
DIG_SAF_4.6	Please indicate your level of agreement with the following statement using the scale from 1 (Not control at aware) to 5 (Fully aware): how aware are you of the “hidden costs” of AI, such as the massive water and electricity consumption required to train models AI generative?
	Not control at aware 1 2 3 4 5 Fully aware
DIG_PRO_5.4	Please indicate your level of agreement with the following statement using the scale from 1 (Not control at aware) to 5 (Fully aware): how aware are you of what you cannot do digitally and how you could learn it (updating/upskilling)?
	Not control at aware 1 2 3 4 5 Fully aware

AIEAS_AUT_06	Indicate how much you agree with this statement using the scale from 1 (Strongly disagree) to 5 (Strongly agree): an AI system can never replace ultimate human responsibility.
	Strongly disagree 1 2 3 4 5 Strongly agree
SD_04	There is less than an hour left before a crucial essay is due. You are using AI to complete the final chapter, and the system generates a perfect paragraph, citing a specific event that brilliantly supports your thesis. However, after a quick search, you find no trace of this event on Google: you strongly suspect it is an AI “hallucination” (an invention). You have no time left to check books or other sources. What do you do?
	A) I include the paragraph as it is. AI is very advanced, and it is probably me who cannot find the source online in such a short time. The text flows smoothly, and I want to submit a complete work. B) I delete that paragraph entirely, even if the essay will be shorter and less incisive. I cannot submit something whose truthfulness I haven’t been able to verify personally. C) I keep the logical concept suggested by the AI but remove the specific references (names, dates) that I cannot find. I make the text more generic to avoid being accused of writing false information, while still utilizing the machine’s work. D) I consider the incident unacceptable. I do not submit the assignment or I ask the teacher for an extension, explaining that I need more time to verify sources, accepting the potential grade penalty for the delay.
SD_05	All your classmates are using a new viral app to create group avatars and inside memes. If you are not on the platform, you are literally cut out of the group’s conversations and jokes. You download the app, but before it opens, it mandatorily requests access to your entire contact list, your precise GPS location, and your private photos for commercial purposes. What do you decide to do?
	A) I accept everything and use it immediately. Being part of the group and understanding my friends’ jokes is more important than the privacy of my data right now. B) I try to trick the system or limit the damage: I deny permissions (if possible), enter false data, or use a “burner” (secondary) phone with no personal data, just to participate without selling myself out. C) I do not install the app and accept being excluded from this trend. I believe the price to pay in terms of personal data is too high for a passing fad. D) I accept the conditions, enter the app to see what everyone is talking about, take a couple of screenshots, and then delete it immediately and revoke permissions, hoping to have limited the data collection.
SD_06	Your smartphone is two years old. It still works for essential tasks, but the battery lasts less than before, and the system has become a bit slow with more recent apps. The new model has just been released; it is much faster and

	features exclusive Artificial Intelligence functions. You have the money to buy it. What decision do you make?
	A) I buy the new model immediately. I want to always have the maximum speed and the latest available functions without worrying about slowdowns. B) I keep my current smartphone. I replace the battery or format it to improve performance, and I use it until it breaks completely. C) I buy a more recent but refurbished (guaranteed used) model. I get better performance while saving money compared to buying new. D) I keep the old phone as it is, tolerating the slowness, simply because I don't feel like transferring data and configuring a new device right now.

The translated questionnaires are available at the following links:

Greece: <https://forms.gle/cZ1EnVcKDoX7UJyD9>

Italy: <https://forms.gle/xJJRtPq2hLhEhmEH9>

Lithuania: <https://forms.gle/UU5tqyQ5ZW7WyReg6>

Spain: <https://forms.gle/c3gScv9UcVu6aSPi6>

Turkey: <https://forms.gle/AvyPzUn1kX5qraWg6>

4. Guidelines for the Qualitative Investigation

Given the complexity of the subject matter, it was decided to adopt an adaptive and sequential qualitative investigation strategy, eschewing rigid structuring in favor of an approach that emerges directly from the empirical evidence of the first phase. This methodological choice reflects the awareness that the integration of Artificial Intelligence in schools is not merely a technical process, but a challenge involving profound ethical, social, and identity-related dimensions, which require analytical tools capable of evolving in tandem with the results emerging from the field.

The qualitative protocol is conceived as a mechanism of analytical excavation. Rather than administering pre-packaged questions, the strategy involves awaiting the analysis of the quantitative data to precisely identify the “nodes of tension” or attitudinal inconsistencies present across the diverse partner countries. For instance, should the statistical data reveal high technical competence associated with elevated ethical anxiety, the qualitative phase would be specifically oriented toward addressing this paradox through the co-design workshops.

The central objective lies in transcending numerical data to access the narrative and interpretative dimensions of teachers and students. Through this phase, the consortium aims to understand the deep-seated motivations fueling technological resistance or, conversely, the drivers toward innovation, providing the necessary elements for data triangulation. This process is fundamental for hypothesizing a STIAEM Pedagogical Model that is truly responsive to the national school contexts of Italy, Spain, Turkey, Greece, and Lithuania.

4.1 Focus Groups

The Focus Groups constitute the primary investigative mechanism for exploring the “Slow Tech Attitude” within a context of collective exchange. The sessions will involve groups of 6–8 participants, maintaining a distinction between the teaching staff and the student population to ensure freedom of expression.

The discussion will be activated using the Situational Dilemmas (SD), previously administered in the surveys, as stimuli. Scenarios regarding the automation of planning (SD01), cognitive delegation (SD03), or the management of algorithmic hallucinations (SD_04) will serve as triggers to elicit ethical values and submerged pedagogical concerns. This activity will allow for a more precise delineation of the evidence emerging from statistical analyses, transforming detected competence gaps into themes for critical discussion.

4.2 Co-design Workshops (Participatory Design)

The Co-design Workshops represent the operational phase in which research transforms into pedagogical action. In these laboratories, researchers and stakeholders will collaborate to “design” *ad hoc* instructional solutions that integrate AI according to the pillars of Slow Tech: Good, Clean, and Fair.

Participants will be tasked with envisioning technology usage scenarios that preserve the educational alliance and human agency, responding directly to the critical issues identified during the quantitative phase. The results of the workshops, in the form of conceptual maps and prototypes of Open Educational Resources (OER), will constitute the foundation for defining the STIAEM Pedagogical Model, ensuring that the integration of AI within the school context is the result of a participatory and conscious process.

4.3 Semi-structured Interviews

To complete the data landscape, semi-structured interviews will be conducted with key informants and school leaders. The emphasis will be placed on organizational sustainability and the policies necessary to support the ethical adoption of AI.

The final triangulation will occur by integrating statistical trends, insights emerging from focus groups, and proposals from the workshops. This integrated approach ensures that the data collection protocol is not a mere information-gathering exercise, but a strategic mechanism to consolidate the balance between digital innovation and pedagogical ethics, representing the core strength of the STIAEM research.



STIAEM
Slow Tech Innovation
AI, Ethics and
New Teaching Methods



Co-funded by
the European Union

2025-1-IT02-KA220-SCH-000365213

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