AI Generation

Impact Report

AI Generation Curriculum Pilot Program

Course 1 - Introduction to Artificial Intelligence

2023 – 2024

UiPath Foundation in partnership with App Inventor Foundation

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Executive Summary

This impact report presents findings from the 2023–2024 pilot implementation of the **AI Generation Curriculum, Course 1 - Introduction to Artificial Intelligence**, a joint initiative by the UiPath Foundation and the App Inventor Foundation. The program engaged 94 Romanian high school students from underprivileged backgrounds, part of the UiPath Foundation's Own Your Path program. The course was organised online on UiPath Foundation's educational platform. Students engaged in online syncronous sessions led by UiPath volunteers as trainers. Most of the volunteers did not have a technical background. The course is aiming to enhance foundational competencies in Artificial Intelligence (AI), promote ethical awareness, and cultivate future-ready skills. The curriculum aligns with the *UNESCO AI Competency Framework for Students*[1] and reflects UNESCO's[2] ethical guidelines while developing human-centered and inclusive AI literacy. Surveys conducted before, during, and after the program demonstrated strong student engagement and statistically significant increases in AI knowledge and self-efficacy.

1. Miao, F., Shiohira, K., & Lao, N. (2024). *AI competency framework for students.* United Nations Educational, Scientific and Cultural Organization. https://unesdoc.unesco.org/ark:/48223/pf0000391105

2. UNESCO. (2025). *Recommendation on the ethics of artificial intelligence.* United Nations Educational, Scientific and Cultural Organization. https://www.unesco.org/en/artificial-intelligence/recommendation-ethics

1 Curriculum Overview

AI Generation is a high school AI curriculum grounded in a human-centred and computational action approach[3]. It is built upon the four core values and ten principles from UNESCO's *Recommendation on the Ethics of Artificial Intelligence*[4]. The curriculum emphasizes the intersection of AI with key humanistic principles such as inclusion and equity, the use of AI to address social, personal, and environmental challenges, and a commitment to sustainability and reducing environmental impact.

The curriculum introduces core AI concepts while providing students with opportunities to experiment with AI tools and apply them creatively for personal expression. The pilot implementation spanned 14 weeks and included three instructional modules followed by a Capstone project module, aligned with the first three aspects of UNESCO's *AI Competency Framework for Students*:

- **Module 1:** Human-Centered Mindset (4 weeks)
- **Module 2:** Ethics of AI (4 weeks)
- **Module 3:** AI Foundations (4 weeks)
- **Module 4 Capstone project:** Teaching AI to Your Community (2 weeks)

Each core module involved four weeks of synchronous instruction, totaling approximately 35 hours (1.5 hours of classroom learning and one hour of homework per week). Students engaged in iterative problem-solving using AI to address personally relevant challenges, culminating in the Capstone project where students designed and taught AI lessons to peers and community members. The curriculum aimed to develop foundational AI literacy, critical thinking, communication, problem-solving, and collaboration skills.

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3. Tissenbaum, M., Sheldon, J. şi Abelson, H. (2019). *From computational thinking to computational action. Communications of the ACM*, 62(3), 34–36. https://doi.org/10.1145/3265747

4. UNESCO. (2022). *Recommendation on the Ethics of Artificial Intelligence*. United Nations Educational, Scientific and Cultural Organization. https://unesdoc.unesco.org/ark:/48223/pf0000381137

2 Student Demographics and Technological Background

A total of 94 students participated in the AI Generation Curriculum Pilot Program, Course 1 - Introduction to Artificial Intelligence pilot program. 88 students provided the data necessary for the elaboration of this report, a response rate of 93.6%.

The gender distribution consisted of 62.5% female and 37.5% male students. Participants ranged in age from 15 to 17 years old, with a median age of 16. In terms of grade level, 34% of students were in the 9th grade, while 66% were in the 10th grade. Students attended various types of high schools: 17% were enrolled in National Colleges, 28.4% in Theoretical High Schools, and 54.5% in Technological High Schools. A majority of students (73%) resided in rural areas, while 27% came from urban settings.

Regarding family structures, 77.3% of students lived with their nuclear families, 19.3% in single-parent households, and 3.4% with extended family. The average monthly household income among participants was 1,547 RON, which is significantly below the national average.

Students' internet proficiency varied: 12% rated themselves at an elementary level, 47% at an intermediate level, and 41% at an advanced level. Only 13% of students reported having taken previous courses in programming, information technology, or computer science. All students reported using the internet.
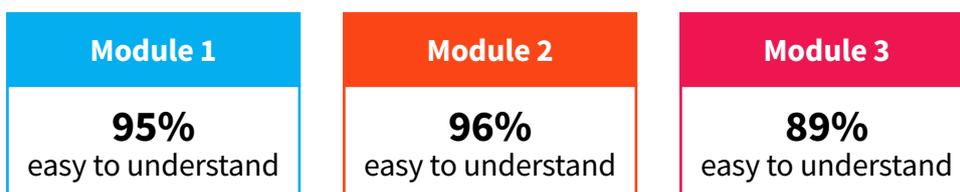
3   Course Evaluation

Student feedback collected through end-of-module and post-program surveys indicated high levels of satisfaction and engagement with the course. The average attendance rate was 82%, a strong indicator of sustained interest and commitment throughout the 14-week extracurricular program. Notably, 45% of students attended at least 90% of sessions, and 69% attended 80% or more, underscoring a high degree of consistency in voluntary student involvement. Overall, students found the course accessible, relevant, and enjoyable across all three instructional modules and the Capstone project.

3.1 Curriculum Accessibility and Student Perception

When students were asked to rate each module through a survey, the median response was consistently "Great," the highest rating available on the Likert scale. Students particularly appreciated the hands-on nature of the content, the clarity of instruction, and the opportunity to explore AI in a way that was personally meaningful. While the perceived difficulty increased slightly with each successive module, particularly Module 3, students continued to rate their experience positively.

Module Difficulty Perception:

Module 1	Module 2	Module 3
95% easy to understand	**96%** easy to understand	**89%** easy to understand

When asked what students appreciated about the course, responses included learning new things about AI, appreciation of group work and learning opportunities in teams, the debates held in class and the ability to freely express their opinions, and the atmosphere created by the moderators.

Sample student responses:

What did you appreciate about this course?

I liked it because I learned something new about artificial intelligence and learned how to use artificial intelligence applications.

I liked the fact that in the breakout rooms the colleagues were involved and we managed to do the tasks and the way the teacher taught, because the explanations are clear, it incites my curiosity and I gladly participate in the class.

Working in a team, and that I can express my opinion, and if it is wrong, I am given arguments why it is not good and I learn in a healthy way.

What I liked most about this course was that each participant had the right to an opinion and that I understood something from each lesson.

What I liked the most is that every time I had a misunderstanding related to a certain subject, you explained it to me in such a way that I managed to understand but also made it easier for me to learn.

3.2 Knowledge Assessment Results

Each of the three main modules concluded with a 20-point knowledge assessment:

Module 1	Module 2	Module 3
Average score **82%** SD = 19%	Average score **60%** SD = 15%	Average score **63%** SD = 18%

The consistent standard deviations suggest well-balanced assessments in differentiating student understanding despite a variation in difficulty across modules.

No significant performance differences were found between male and female students, reinforcing the program's goal of inclusivity and its effectiveness in engaging students across gender lines.

Total score vs. Gender
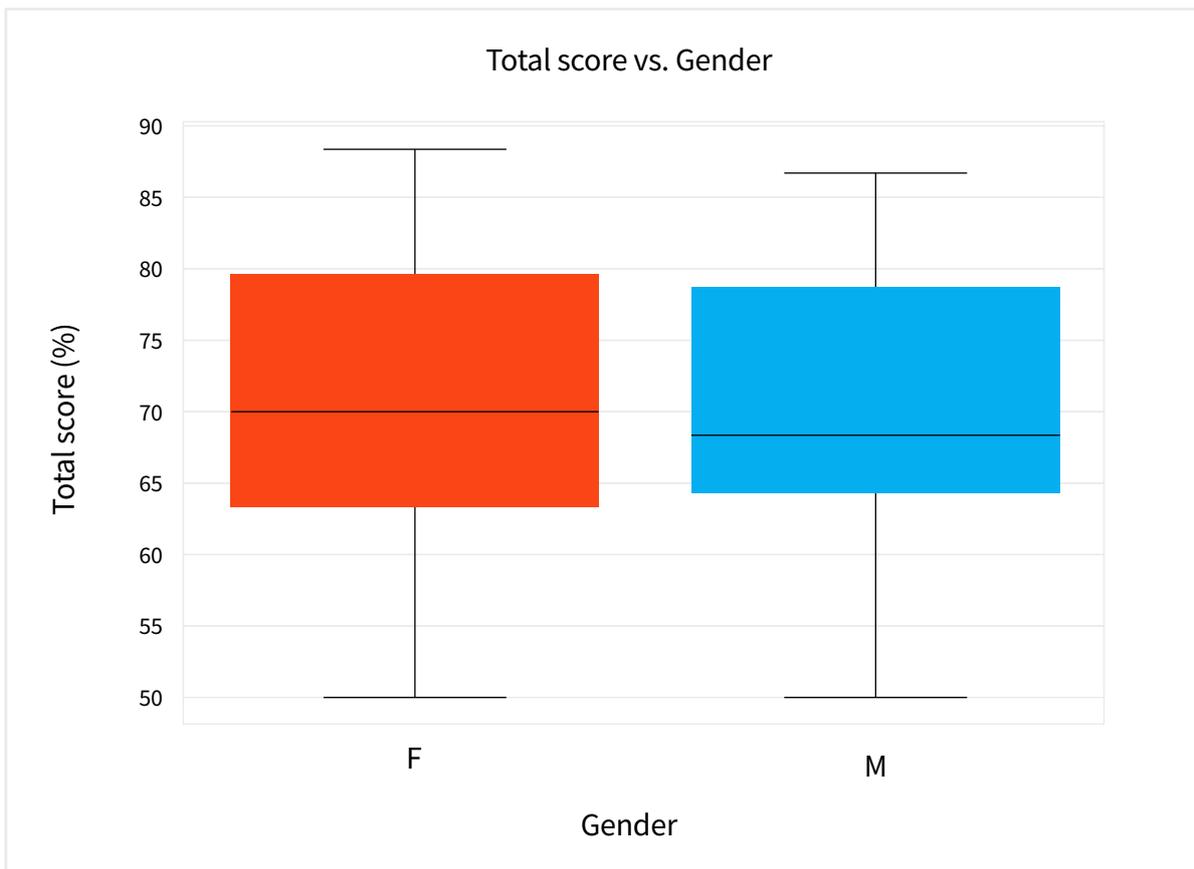
There is a slight positive correlation between the number of years students are supported by UiPath Foundation programs (e.g. 1.5 years vs. 0.5 years) and their overall knowledge assessment scores. This suggests that longer support from the program is associated with improved academic performance.

Total score vs. Number of years supported
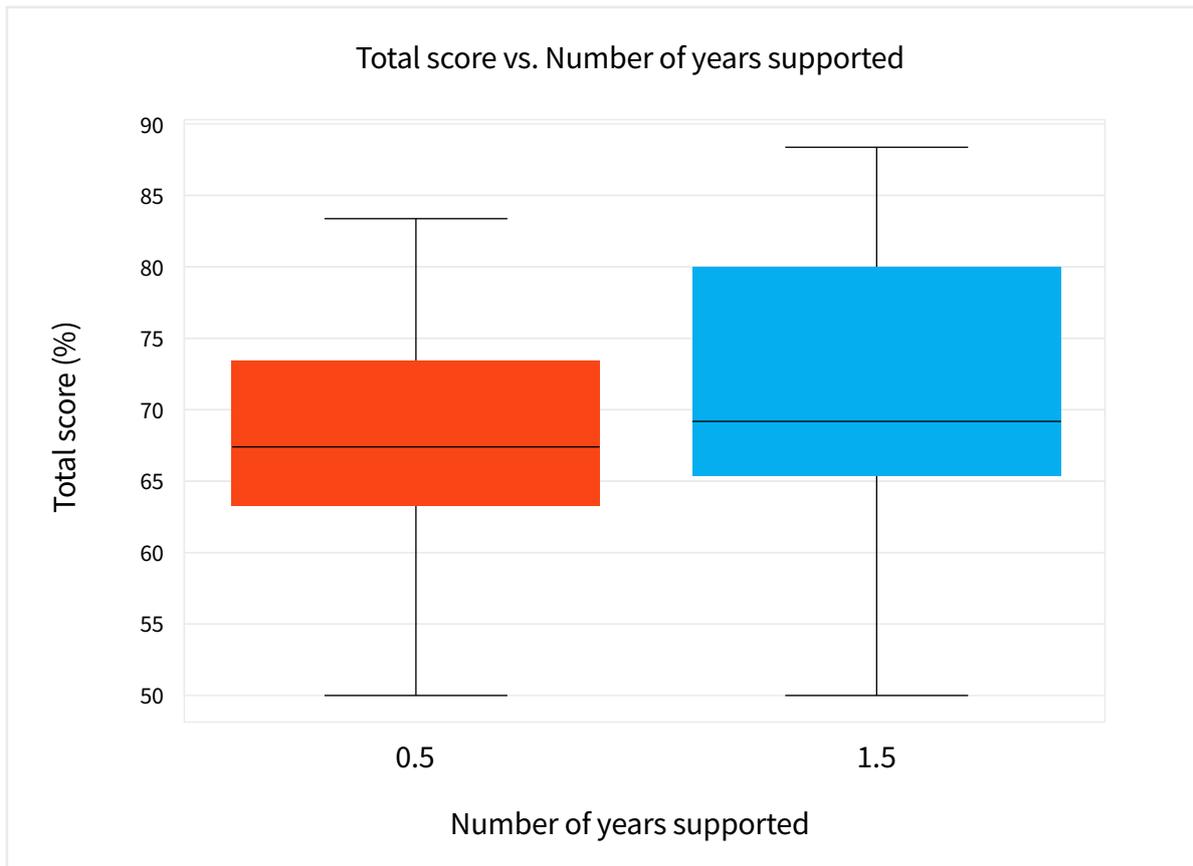
Feedback on the Capstone project was strong. Students valued the opportunity to consolidate their learning by developing and teaching their own AI lessons to peers and community members. On a 4-point scale, students rated the final project an average of 3.4 for overall satisfaction and 3.5 for the learning it provided. Most students reported choosing project topics that were personally relevant, demonstrating a strong connection between the course content and their lived experiences[5].

3.3 Learning Outcomes and Attitudinal Shifts

Pre- and post- Likert surveys were administered to collect data on change in student self-efficacy in AI, and their perceptions of and attitudes towards AI. The Likert-based pre- and post-program surveys demonstrated perceived improvements in self-efficacy and knowledge in AI, as well as overall improvements in problem-solving and collaboration skills. The measures with the highest changes from the pre- to the post- surveys were students' confidence in their abilities to explain AI to others, and their understanding of the large extent to which AI affects their lives (see Table below).

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5. Note that the Capstone project for the pilot course focused on designing an AI-integrated robot. This is the Capstone project students evaluated for this report. While parts of these activities are integrated into the public-facing course, the Capstone was revised to focus on designing an AI lesson. The change allows students to engage in a practical activity they can immediately use in a classroom setting, and ensures each of the three AI Generation courses can be delivered within one school year without dependencies between school years.

Indicator	Pre (4-point scale)	Post (4-point scale)	Δ (Change)
Career Interest in AI	2.901	3.016	+0,115
Hobby Interest in AI	3.160	3.263	+0,103
Interest in Joining AI Communities	3.133	3.263	+0,130
Confidence Explaining AI	2.871	3.216	+0,345
Perception of AI's Impact	2.764	3.041	+0,277
Problem-Solving Ability (General)	3.033	3.204	+0,171
Collaboration Skills (General)	3.380	3.509	+0,129

Notably, 88% of students reported that they were confident in explaining AI concepts to peers, a statistically significant change from the Pre- to the Post- survey ($p < 0.005$). After the course, student definitions of AI highlighted the focus of this course on responsible and human-centred AI, for example:

> **Artificial Intelligence is a program** (algorithm) that is fed with data and is **meant to help humanity in all possible fields**.

Additionally, 80% of students indicated increased interest in pursuing AI-related careers. Students also reported an increase in their perception of their problem-solving and collaboration skills.

4 Student testimonials

After completing the pilot-program and the surveys, we asked the students to share their experience with the course through written testimonials. These are some of their answers:

Before the course, if I had been asked what an AI was, I would probably have given an answer like something from the Matrix movies. But I found out that these AIs are much simpler to understand and, surprisingly, very common. I really liked the way this AI phenomenon was presented: easy to understand, without any complicated languages or impossible to follow schemes.

Sorin, 17 y.o., Suceava county, Romania

The activities were diverse and fun, but I really enjoyed the ones where we read articles about the impact of AI on different systems (medical, banking) and we all discussed in groups, sharing our opinions and what kind of impact they have on us.

Georgeta, 17 y.o., Neamț county, Romania

If I were to recommend this course to a friend, I would describe it as a course that can help you a lot in the future and at this moment, a course that teaches you how to figure out if the things we see online are real or just made with the help of AI.

Andreea, 17 y.o., Vrancea county, Romania

What I liked the most was that the lessons were easy to understand and the way the information was presented. I learned how an AI works and how much power it consumes in order to function. I would highly recommend this course to my friends, and I would start by saying that this course really teaches you about AI in a fun way, and instead of draining your energy, it gives you more!

Erden, 16 y.o., Bucharest, Romania

5 Conclusions and Recommendations

The AI Generation pilot program successfully enhanced AI literacy, fostered inclusive learning environments, and promoted ethical and applied understanding of emerging technologies among traditionally underserved Romanian high school students. Students consistently rated the course as valuable—both in terms of content and delivery—and demonstrated meaningful gains in knowledge, confidence, and interest in AI.

Both written and oral student feedback revealed that several elements of the curriculum were particularly impactful in driving engagement and deep learning. Among the most appreciated aspects were hands-on AI creation, collaborative group work, in-class debates, and opportunities for personal expression. These components not only helped students grasp technical concepts but also fostered a sense of agency and belonging in a subject area often perceived as exclusive or inaccessible.

One student reflected this environment by sharing:

I appreciated working in a team, and that I can express my opinion, and if it is wrong, I am given arguments why it is not good and I learn in a healthy way.

Another highlighted the value of inclusive discourse:

I liked debates on certain topics with colleagues (I'm not good at socializing, unfortunately... and I feel this helps me).

A student reflected the course's ethos and focus on responsible and human-centred AI with this definition:

Artificial Intelligence is a program (algorithm) that is fed with data and is meant to help humanity in all possible fields.

These reflections underscore the program's success in cultivating not just AI skills, but also ethical awareness, self-confidence, and social-emotional growth.

To improve the Introduction to Artificial Intelligence course, several recommendations are proposed for future iterations. First, extending the program duration would allow for a more in-depth exploration of complex topics, enabling students to consolidate their understanding through increased practice. Second, to address the slight decline in student performance observed in Modules 2 and 3, incorporating additional support mechanisms—such as more activities, review sessions, or peer mentoring—could bolster comprehension and progress. Lastly, maintaining and expanding interactive components is crucial, given the positive feedback on collaborative activities and student-led discussions. Integrating more debates, group projects, and real-world applications can further enrich the learning experience, fostering both technical proficiency and essential soft skills. By building on these strengths and addressing areas for growth, AI Generation can continue to serve as a powerful model for equitable AI literacy education.

6 AI Generation courses

AI Generation is a curriculum for high school students to develop AI Literacy skills.

The entire curriculum includes 3 courses:

Course 1	Introduction to Artificial Intelligence - discover the world of Artificial Intelligence and how to use it responsibly

Course 2	Artificial Intelligence and MIT App Inventor - learn to use MIT App Inventor and explore apps that integrate AI components

Course 3	Development of AI app in MIT App Inventor - create AI apps from problem scoping to deployment

This impact report focuses on Course 1.

Course 1, Introduction to Artificial Intelligence, has been adapted to 50-minute lessons with ready-to-use teaching materials for in-class and online synchronous learning. The course is published under a Creative Commons license, making it free to use and adapt by teachers at a global level.

The AI Generation curriculum continues to be successfully implemented within the UiPath Foundation's Own Your Path Program for high school students from vulnerable communities in Romania.

Partner organizations

The **UiPath Foundation** is a nonprofit organization whose mission is to change the trajectory of children living in underserved communities through long-term personalized support and innovative technology-enabled education. The Foundation's programs help children develop essential skills such as numeracy, literacy, digital competencies, and English language proficiency. Children enrolled in these programs receive a monthly scholarship, internet-connected devices, and comprehensive support for their basic, medical, and psychological needs — all contributing to a reduction in their families' economic vulnerability. Through both in-person and online educational and community experiences, participants build communication skills, self-confidence, and resilience. The organization offers children the opportunity to gain future-ready competencies and the confidence they need to succeed — in school and beyond.

The **App Inventor Foundation** is a 501(c)(3) nonprofit established by professors and engineers from Massachusetts Institute of Technology (MIT) and Google. Its mission is to empower students to create meaningful technologies that can transform their lives and uplift their communities. Since its inception in 2007, the App Inventor project has reached over 20 million learners worldwide, who have collectively built more than 100 million mobile apps. Grounded in the principles of constructionism and computational action, App Inventor emphasizes learning through building real-world solutions that matter to students and their communities. The Foundation collaborates closely with MIT App Inventor to expand global access to computing education through curriculum development, teacher training, and leadership in international K–12 AI education policy.

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