



Day of AI: Innovating Pedagogical Practices to Bring AI Literacy to Classrooms at Scale

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Abstract. We present the Day of AI, an innovative program for K-12 educators around the world to bring AI literacy curricula to their local classrooms and communities, all for free. Our open teacher-facing materials, student-facing materials, and supporting technologies were developed to address key challenges in empowering teachers to bring multi-disciplinary, hands-on AI literacy learning opportunities to their students in the face of limited pedagogical practices, curriculum, and resources in their community. We designed a modular, 4-hour format for multiple grade bands, spanning upper elementary through high school, to bring AI literacy to K-12 classrooms at scale. Student learning objectives included: demystifying how AI works, analyzing AI applications, and thinking critically about the ethical use of AI and its societal implications. Our research study utilized a sequential mixed methods approach to design and evaluate the effectiveness of our curriculum and professional development resources to support teachers in bringing the curricula to their classrooms. A total of 108 teachers from over twenty countries participated in our study, who collectively taught the curricula to over 7,000 students. Quantitative and qualitative findings suggest that teachers were well supported by our teacher-facing materials and professional development training. Teachers also positively rated students' engagement and AI literacy knowledge gains with the curricula.

Keywords: AI literacy · AI professional development · curriculum design · pedagogy

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1 Introduction

The pervasive impact of artificial intelligence (AI) is disrupting the traditional workforce and generating new opportunities for individuals to collaborate with AI technologies across many different industries and markets. In response to these shifting demands, it is crucial for people to develop essential AI competencies, enabling them to use and understand AI responsibly in solving real-world problems [1] across diverse applications. As AI continues to be integrated into various aspects of society, it is vital for individuals to be critically aware of its social, ethical, and cultural implications [2]. This requires foundational AI literacy that includes basic knowledge about how AI works, developing AI-enabled problem solving skills, and critically evaluating social and ethical AI applications.

To ensure AI literacy for all, K-12 teachers need access to professional development resources and curricula that prepare them to develop students' AI literacy competencies. These resources should easily integrate into existing school curricula and national and regional standards, as well as involve stakeholders from different countries to ensure equitable and inclusive access. We introduce an innovative AI literacy program, called Day of AI, which is designed to help K-12 educators bring AI literacy to their classrooms. Our program provides free curricula and professional development to encourage students to actively solve problems, engage in multi-disciplinary thinking to understand and use AI applications in different contexts, and critically reflect on the ethical use and societal implications of AI. The curriculum is designed to ensure equitable distribution of essential resources, allowing global educators to adapt and create their own AI literacy lessons [3].

2 Background: AI Literacy for K-12

Artificial intelligence was first defined as a joint discipline of the science and engineering of making intelligent machines in 1956 [4]. However, given the pervasive integration of AI algorithms and technologies into people's professional and personal lives – across diverse industries, markets, and applications – AI has also transformed notions of modern digital literacy and digital citizenship. *AI literacy* refers to the ability to understand, use, and evaluate artificial intelligence (AI) applications and their societal implications [5]. It encompasses a range of skills, including understanding the basic concepts and terminology of AI, knowing how to interact with AI systems, being able to make informed decisions about how to responsibly use AI applications, and thinking critically about the ethical and social implications of AI [6]. Given that children are already using AI-enabled services and technologies on a daily basis, AI literacy is becoming increasingly important in K-12 education. Arguably, it will become essential for individuals to develop these competencies to be successful in an AI-powered future.

Numerous educational entities have prepared guidelines for teaching AI to K-12 students through joint efforts from the Association for the Advancement

of Artificial Intelligence (AAAI) and AI4K12 [7]. Prior literature has identified the need to develop curricular resources and key activities across a wide variety of key AI topics for diverse classrooms [8]. Traditionally, however, AI has been taught in technical subjects such as programming, computer science, or information and communication technology skills. The reality, however, is that AI is transforming disciplines and digital applications across art, science, math, social science, engineering, civics, and more. This motivates a multi-disciplinary approach to AI Literacy.

2.1 Innovative Curricular Approaches for K-12 AI Literacy

Developing AI literacy as a meta-discipline, that goes beyond computer science or even traditional academic silos, requires innovative thinking and resources in curriculum development. By introducing AI literacy concepts into classrooms in a way that bridges applications and disciplines, educators across a number of academic subjects can help bring AI literacy to students. Innovative curricular materials, hands-on activities, and classroom discussions could be designed to develop students' critical thinking and reasoning skills for responsible AI use, engage in creative expression and design thinking using AI software applications, enhance problem-solving skills with AI-powered tools, and think through policy implications surrounding AI such as data privacy, ethics, and social justice. In turn, this can lead to developing students' critical awareness of the social impact and applications of AI technologies [9], giving them an informed voice about how AI solutions should be designed and used in society to support human values.

2.2 Innovative Pedagogical Practices for AI Literacy

A multi-disciplinary approach to AI literacy curricula holds the potential to prepare educators to rethink and innovate pedagogical practice in the classroom. Several studies have identified the importance of co-design between teachers, students, and curriculum designers to develop new tools, activities, projects, and methods for teaching AI literacy concepts and skills [10]. Sanusi *et al.* (2021) highlight the benefits of engaging student learners in the co-design process. They were able to leverage learning opportunities to support students with diverse needs, better contextualize AI learning resources to student interests, and better prepare students to reason about the social and ethical implications of AI [11]. Research studies have also shown the power of project-based learning methods in bringing meta-disciplines together in the context of AI literacy. These approaches engage students in critical thinking, creative problem solving, and self-expression that is highly engaging for students [12]

2.3 Broadening AI Literacy Access at Scale

International initiatives have highlighted the importance of AI literacy and developing teaching capacities in local regions. The Organisation for Economic Cooperation and Development (OECD) G20 artificial intelligence dialogue emphasized the benefits of AI to improve education processes, specifically on “preparing

students for new skill sets for increasingly automated economies and societies” [13]. Equitable access to AI literacy in K-12 schools remains challenging. Many school districts worldwide have limited resources in professional development and administrative support for classroom technologies. Students may have uneven access to high-quality, hands-on AI literacy curricula given technology and infrastructure gaps [14]. Often, AI literacy curricula are developed with a particular audience in mind. Cultural differences, the need for language translations, and deficit thinking still exist, too. All of these can create additional challenges to adopting AI literacy curriculum and resources [15]. Therefore, teachers need to be able to adapt and design lessons for their own classroom setting, particularly for different international or cultural settings.

3 The Day of AI

3.1 Day of AI Curricula

The vision for the Day of AI program is that *AI is for everyone*, and any teacher can successfully bring the program to their classroom. The curricula is developed by the MIT RAISE Initiative (Responsible AI for Social Empowerment and Education). All Day of AI materials are free to use, customize, and redistribute under the Creative Commons CC-BY-SA license. The program provides free online pedagogical training, resources, and practices to support teacher innovation and adaptation of the materials. The technology requirements are designed to broaden access to classrooms with different technology needs and teacher backgrounds and contexts.

The activities are designed to be hands-on and relevant to student interests to inspire multi-disciplinary creative design, critical thinking, and reflective discussion. In 2022, the curriculum was offered in four grade bands: upper elementary, middle school, high school, and a more technical high school track for students with stronger coding backgrounds. The modular curriculum contains four hours of online and unplugged activities in 30–60 minute lesson blocks.

All grade band tracks start with the *What is AI?* lesson that features a professionally-produced video of AI scientists and practitioners who define AI in their own words. This is followed by a grade band specific version of *How do Machines Gain Intelligence?* Each grade band then features an age-appropriate thematic unit that focuses on a timely AI topic with applications that are relevant to students. This allows the classroom to dive deeper into the content in a multi-disciplinary manner. Student learning objectives include: demystifying how AI works, analyzing a variety of AI applications across different disciplines, and understanding and thinking critically about the ethical use of AI and its societal implications. All grade band curricula end with the *Careers in AI* session. This features a video that showcases a breadth of careers in AI. Told from the perspective of diverse professionals in a multitude of industries and academia, interviewees range from astronomers to product designers, with industries spanning climate science, consumer products, law and policy, insurance, healthcare, and more. The goal is to demonstrate the pervasiveness of AI in many industries,

not just the tech-centric ones, and to show a diversity of professionals. All can be accessed for free once registered on dayofai.org/curriculum. Below is an overview of curricula and lessons offered by the Day of AI the spring of 2022:

- All grades: **What is AI?** *How do machines gain intelligence?*;
- Grades 3–5: **Teachable Machines:** *What is an algorithm? How do machines learn from data? What is algorithmic bias?*;
- Grades 6–8: **Creative AI:** *What is an algorithm? Can machines be creative? What are deepfakes and how are they used?*;
- Grades 9–12: **AI in Social Media:** *Recommender Systems, How does it learn to recommend things I like? Social media policy and misinformation;*
- Grade 9–12: **AI and Mobile Computing** (CS students): *Image classification, Training and testing models, and Gender Shades;*
- All grades: **Careers in AI**

3.2 Day of AI Professional Development

Our STEM education collaborator, i2Learning, provided teacher logistical support and free online professional development sessions. Professional instructors from i2Learning ran the online professional development sessions twice weekly from January through April 2022, at times typically convenient for school teachers. More than 350 teachers took the three-hour training sessions across each grade band offered. Through our surveys at the conclusion of the sessions, we found that teacher interest was very high and fairly uniform across all four grade bands.

3.3 Day of AI Event

The Day of AI event was held on May 13, 2022. The event was promoted through social media and professional educator networks, worldwide. Within the U.S. there was focused outreach toward U.S. Department of Education Title I schools. Teachers were invited to register, including those without any background in STEM subjects or expertise in computer science. Over 3,000 teachers in over 90 countries registered on dayofai.org to bring the Day of AI to their classroom. Teachers from the United States represented the largest cohort, with over 2100 teachers from 48 states. Internationally, teachers from the UAE (346 teachers), India (121 teachers), Canada (53 teachers), and Spain (50 teachers) represented the largest share of 93 countries participating (See Fig. 1). Based on the registration information provided by the teachers, they self-reported teaching a cumulative total of over 500,000 students worldwide, although it is difficult to ascertain actual participation. To our knowledge, this is the largest international K-12 AI literacy program to date. Classrooms all over the world posted what they did on Twitter [#dayofai](https://twitter.com/dayofai).

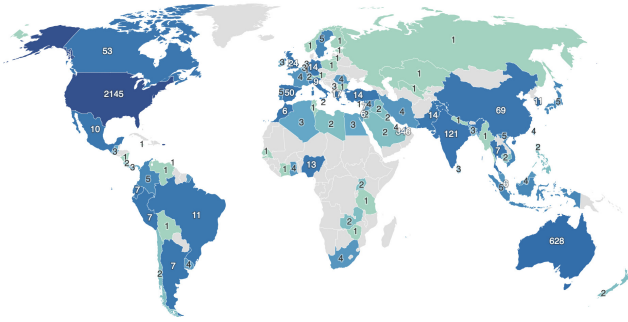


Fig. 1. Teacher registrations per country for the Day of AI event.

4 Study Methods

4.1 Recruitment and Demographics

We recruited teachers through an email invitation to those who registered for the Day of AI. A total of 108 teachers from over twenty countries agreed to participate in our study (see Fig. 2). Collectively they reported bringing the program to over 7,000 students, collectively. A total of 86 teachers were from the United States and 22 were from schools in other countries. Within the non-US respondents, educators were from the following countries: Canada, Mexico, Guatemala, Uruguay, Germany, Romania, Italy, Argentina, the UAE, India, Hong Kong, Lebanon, Turkey, and Greece. All of the teachers in the US were from Title I schools.

A total of 87% of respondents were teachers, and the rest were administrators. Over 85% of respondents taught at least one STEM subject (Science, Mathematics, Technology, Computer Science, Engineering). About 74% of respondents were mid to late career teachers with over 10 years of classroom experience. Over 40% of the respondents did not have a STEM degree. They taught in a variety of school contexts including district public schools, special education schools, private schools, religious schools, and charter schools. They actively taught a variety of disciplines including STEM, ELA (English Language Arts), social studies, and special education. They also taught grade bands from upper elementary, middle school, and high school. See Fig. 3.

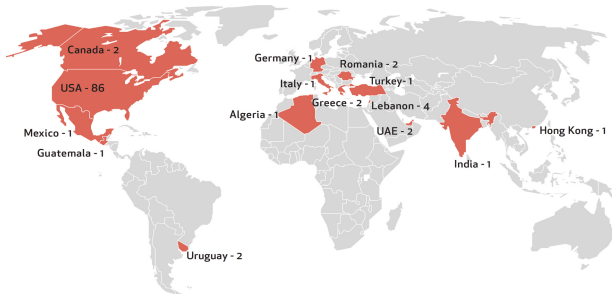


Fig. 2. Research study participation per geographic distribution.

4.2 Methods

Our research study utilized sequential mixed methods to design and evaluate the effectiveness from teachers’ perspective on student AI literacy gains as well as their own professional development training and classroom implementation experience. The research team collected both quantitative and qualitative data. Teachers accessed the dayofai.org course materials. At the end of the event, the research team emailed the 86 study participants a questionnaire via Qualtrics survey distribution systems. Researchers also conducted post-interviews with participants who said they would like to be interviewed to share their experiences with curriculum implementation, the classroom teaching experience, and student engagement with the materials. For the qualitative data, 13 teachers agreed to be interviewed. They were from Greece, Italy, Guatemala, and the United States.

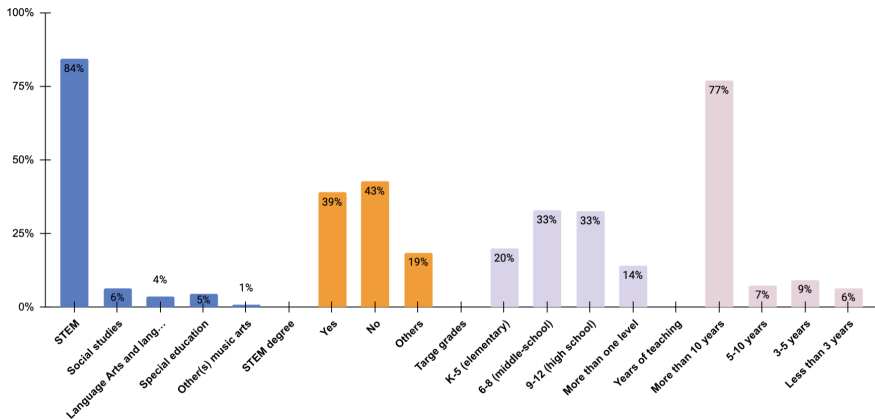


Fig. 3. Domestic and International Participants Demographics

4.3 Instruments and Metrics

4.3.1 Teacher Experience Metrics

Quantitatively, the teacher questionnaire was administered to investigate the effectiveness of the curriculum resources and teacher professional development materials. We also collected participants' professional backgrounds and experiences. The research team administered a total of fifteen questions, including thirteen Likert-scale questions (5-point scale) and three open response questions. Four measures were designed to understand teachers' preparedness based on the provided Day of AI teacher materials and training. These measures are:

- Effectiveness of the training (T1),
- Effectiveness of the resources (T2),
- Readiness to teach the curricula (T3), and
- Success in implementing the curricula in their classroom (T4).

Our study examined internal structure validity through the empirical correlation of the items. We also performed an exploratory factor analysis to examine the underlying correlation among each item on four proposed domains T1–T4. The values of Cronbach's alpha ranged from .95 to .97, with an overall value of .97, indicating high internal consistency. Our factor analysis was confirmed with loadings ranging from 0.645 to 0.734.

Qualitatively, the interview protocol invited teachers to share external factors that might facilitate or inhibit the implementation of the Day of AI to explore diverse decision-making factors in curriculum design and classroom teaching experiences. The two items were (1) *Do you think your students are more literate in AI concepts and ideas after engaging with the curriculum?*, and (2) *How easy was it to adapt the curricula to your classroom?*

4.3.2 Student Experience Metrics

Quantitatively, we designed four student measures to understand students' learning outcomes from the teachers' perspective. The research team administered eight Likert-scale questions on 5-point scale. Our study examined internal structure validity through empirical correlation of the items. We also performed an exploratory factor analysis to examine the underlying correlation among each item on four proposed measures S1–S4. The values of Cronbach's alpha ranged from .89 to .92, with an overall value of .94, indicating high internal consistency. Our factor analysis was confirmed with loadings ranging from 0.68 to 0.75. Student measures are as follows:

- Students learned valuable knowledge about AI (S1),
- Students could reason about AI applications (S2),
- Students could critically evaluate AI applications in terms of ethical considerations (S3),
- Students could critically evaluate AI applications in terms of social implications (S4) (Fig. 4).



Fig. 4. Left: Teachers’ experience with Day of AI professional development training and materials; Right: Teachers’ perception of students’ engagement and learning experience with Day of AI.

5 Results

5.1 Teacher Preparedness

Quantitative and qualitative findings suggest that teachers felt the provided professional development materials and training prepared them well to teach, and adapt as desired, the Day of AI to their students.

5.1.1 Quantitative Analysis of Teacher Experience

For study participants, a comparison of mean scores indicates that teachers’ positively perceived effectiveness of the training, T1 ($M = 4.11, SD = .60$), the effectiveness of the resources, T2 ($M = 4.22, SD = 0.81$), their readiness to bring the Day of AI to their class, T3 ($M = 4.20, SD = 0.85$), and their success in teaching the curriculum to their classroom, T4 ($M = 4.20, SD = 0.82$). See Table 1.

Our Pearson r analysis indicates a significant positive correlation among all four domains (T1–T4). Specifically, teachers’ readiness to use the resources had a strong positive correlation with the effectiveness of the resources ($r = .76^{**}, n = 45, p < .001$) with a medium effect size and also with the implementation of resources ($r = .81^{**}, n = 45, p < .001$) with a strong correlation. Teachers who had received the online training had a strong positive correlation between their readiness to use the resources ($r = .64^{**}, n = 45, p < .001$) and their implementation of resources ($r = .71^{**}, n = 45, p < .001$). This correlation was even stronger for US Title I teachers. See Table 2.

Table 1. Teacher measures descriptive statistics.

Item	Mean	Std Deviation	Min	Max
T1	4.11	0.60	2	5
T2	4.22	0.81	1	5
T3	4.20	0.85	1	5
T4	4.20	0.82	1	5

Table 2. Teacher measures Pearson r correlation.

	T1	T2	T3	T4
T1	1.00	0.76**	0.81**	0.79**
T2	0.76**	1	0.80**	0.77**
T3	0.79**	0.80**	1	0.92**
T4	0.79**	0.77**	0.92**	1

5.2 Qualitative Analysis for Teacher Experience

Teacher interviews were utilized to analyze the impact of the curriculum resources and teacher training on their ability to design, implement, and adapt hands-on projects for their classroom. Overall, teachers felt well prepared to implement and adapt the curriculum and praised its impact on their students’ understanding of AI. Teacher quotes provide deeper insight as to how they were able to successfully bring Day of AI to diverse, international classrooms.

Effectiveness of Training (T1). Our training resources helped teachers prepare lesson material, connect AI to broader social and political contexts, and build their confidence to implement the curricula. Online training was sufficient, introducing foundational knowledge and developing fluency with AI technologies, *“training was good [to get familiar with] lesson plans and tools.”* Participants appreciated the website resources and well-organized curriculum, *“the website was great and helpful in preparing [curriculum teaching].”* They suggested a condensed version with a roadmap of key AI topics and the option to dive deeper.

Effectiveness of the Resources (T2). Teachers positively perceived the value of content, hands-on activities, and resources for implementing the curricula and adapting it as needed. They integrated new ideas and topics into classroom teachings, such as deepfakes and machine learning concepts which were new for them. The resources also enabled participants to facilitate students’ discussions on AI ethics with easily adaptable content material. Participants also appreciated that the curriculum included authentic problems and contexts relevant to students. This recognition of the pedagogical value of the resources allowed students to develop problem-solving skills applicable to the real world, *“I loved that the curriculum had some authentic problems and contexts, and so it had the potential to be relevant to the students’ lives.”*

Readiness to Teach the Curricula (T3). Teachers felt well prepared and were able to adapt Day of AI resources for their classrooms, allowing for flexibility in student learning and accommodating contextual issues. For instance, one study participant made the curriculum accessible for students with special

needs through modifications such as building background knowledge and providing hands-on examples, “[I] developed additional material to ‘front load’ and build background knowledge necessary to access concepts, chunked the information presented on slides into smaller pieces with more support for vocabulary acquisition, and created more hands-on examples and visuals.” Other participants expanded the curriculum across disciplines, such as using examples from astronomy image classification in a physics class. Teachers adapted the curriculum based on students’ prior knowledge, including experimenting with the size of the training set for exposure. Additionally, teachers were able to design hands-on projects that reflected their students’ lives and culture in their community.

Success in Bringing Day of AI to the Classroom (T4). Participants reported success in implementing the curricula in their local classrooms, complete with hands-on activities and lively discussions about the applications and implications of AI. One teacher noted, “*Our students thoroughly enjoyed the hands-on activities. As reality merges with the virtual metaverse, I was thrilled to see [the curricula] help students grasp the fundamentals of AI, paving the way for their creativity and innovation.*” Participants also appreciated hands-on activities for students to engage in active learning of AI concepts, “*The Google Draw activity really helped. That was the best activity you had in the social media lesson because that was really interactive and that kind of clarified big data and machine learning concepts.*”

5.3 Perception of Student Engagement and Learning

Quantitative and qualitative findings showed that teachers positively rated students’ conceptual knowledge gains about how AI works, their students’ ability to think critically about the responsible use of AI applications, and the potential societal implications of AI applications.

5.3.1 Quantitative Analysis of Student Experience Overall, our comparison of mean scores indicates that teachers perceived that students gained valuable knowledge about how AI works, S1 ($M = 4.36$, $SD = .60$) and were able to reason about AI applications, S2 ($M = 4.28$, $SD = .64$). To a somewhat lesser degree, teachers also perceived that students were able to understand the ethical implications of AI, S3 ($M = 3.96$, $SD = .87$) and its social implications, S4 ($M = 3.82$, $SD = 1.0$). See Table 3. Pearson r analysis indicated significant positive correlations among the items: S2 reason about AI application, S3 understand ethical implications of AI, and S4 understand social implications of AI. See Table 4.

5.4 Qualitative Analysis of Student Experience

Students Learn Valuable AI Knowledge (S1). Teachers reported that the curriculum enhanced students’ knowledge about AI, “*Students are more AI*

Table 3. Student measures descriptive statistics.

Item	Mean	Std Deviation	Min	Max
S1	4.36	0.60	3	5
S2	4.28	0.64	3	5
S3	3.96	0.88	1	5
S4	3.82	1	1	5

Table 4. Student measures Pearson r correlation.

	S1	S2	S3	S4
S1	1	0.26	0.18	0.18
S2	0.26	1	0.56**	0.49**
S3	0.18	0.56**	1	0.92**
S4	0.17	0.49**	0.92**	1

literate. There were multiple entry points and activities that students could use to get to the big idea.” Teachers also perceived that students could use the provided AI tools to develop an understanding of AI concepts through hands-on projects, *“Google Draw was a good way to introduce machine learning – helped to ground the discussion on the topic.”* They adapted hands-on lessons to deepen students’ understanding of AI concepts, *“I had them do very certain things like change the size of the training set and see how performance skills fit with that parameter...”*

Students Reason About AI Applications (S2). Teachers’ felt that the curriculum, tools, and hands-on projects helped students to connect new concepts they learned about AI to real-world examples and to think critically about them. After implementing the AI literacy curriculum, one teacher reported that students were able to shift “from consumers to creators.” One teacher shared that students were *“thrilled to gain their first exposure to deepfakes.”* They had the opportunity to *“use YouTube to search for media, such as ‘Gemini Man’, and identify instances of deepfakes”.* They also *“used their cell phones to explore deepfakes”* further and were able to *“create additional content related to NFTs after noticing that Dall-E had created images that resembled NFTs.”*

Students Understand Ethical Implications of AI (S3). Teachers’ felt that the curricula helped students become more aware of issues regarding the responsible use of AI technologies. One teacher remarked, *“It was really interesting to think about how something we use all the time can have this bias.”* Teachers appreciated that students were introduced to the connection between how machine learning models can be trained on not fully representative datasets, and how this can result in biased decisions that can preferentially benefit some groups over others. Students were able to reflect on the importance that *“big large companies’ [data] get more exposure to people of color”* and consider controversial issues of AI algorithms that are worse at recognizing women than men and darker-skinned people over lighter-skinned people. According to teachers, the use of “Gender Shades” helped students to understand the societal implications of AI bias, particularly in relation to gender, *“Gender shades was a good way to introduce the topic of fairness and helped to ground the discussion on the topic of AI bias.”*

Students Understand Social Implications of AI (S4). Teachers believed that the curricula helped students develop an enhanced awareness of AI technologies and their social implications. One teacher remarked, “they were able to reflect on the positive and negative social implications of self-driving cars in their communities.” Similarly, another teacher shared, “Our students were able to reflect upon the critical value of algorithms used in the social media platforms and discussed the responsibilities of social media companies in creating an ethical and respectful space for youth in the 21st century.”

6 Discussion

Our study gathered quantitative and qualitative data from teachers to gain insights into the overall experience of the Day of AI in their classroom, both for themselves and their students. Our results suggest teachers had a positive experience with the Day of AI event, the multi-disciplinary curricula materials, the hands-on activities and tools, and the professional development materials and training.

Key to this positive response was providing teachers with sufficient professional development resources and training. Related to this is teachers’ ability to adapt materials to their classroom context that ranged across different cultures, geographic regions, teachers’ own subject matter expertise, and students’ particular learning needs of the classroom. Results suggest that teachers felt that the hands-on activities and their own customization supported and enhanced student learning and engagement in understanding how AI works in a grade-appropriate way, increasing awareness of how AI is used across a wide variety of applications, and student ability to appreciate the ethical issues and societal implications surrounding its use in society.

Bigger picture, teachers’ positive experience with Day of AI may influence their pedagogical methods in the classroom more broadly. The overall experience reinforced the value of a multi-disciplinary approach to topics that cut across traditional academic disciplines. AI is a subject that allows teachers to show inter-connections between subjects and applications that have significant relevance to student interests. Study findings highlighted student engagement of material when it encourages them to critically consider how AI works, how it is applied, and how this gives rise to ethical and social implications that have significant impact on students and their community.

7 Summary

The Day of AI aims to globally empower teachers in developing students’ AI literacy skills and knowledge at scale. Our mixed methods study suggests that teachers found the Day of AI to be successful in meeting the AI literacy curricula objectives across various grade bands. It helped to demystify AI, introduce students to relevant applications of AI, and enhance their critical thinking about AI to become more informed and responsible users. The curricula are designed to

be multi-disciplinary to capture AI's various uses and impacts in society and are agnostic to teachers' technical backgrounds or subject matter expertise. Teachers found the resources to be easy to use, sufficiently detailed, readily adaptable to their classroom, and helped to develop their foundational knowledge about AI. They liked the accessible, 4-hour modular format. They found the hands-on aspects and engaging discussion topics valuable for a range of active-learning activities. While learning is a complex system, future studies should continue to invest in a systematic process to understand how to best prepare diverse educators around the world to use, design, and implement AI literacy while developing students' critical awareness in the global community and cultural context.

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