Situating Youth Agency in Designing AI & Art Policies

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Abstract

AI technologies have long-term societal implications that impact youth, prompting a need for critical AI literacy for students. While current K-12 AI curricula have increasingly integrated societal impact and ethics concepts in AI curricula, there is a need to center youth's agency in decision-making around AI systems that impact them. In this work, we engaged 94 middle and high school art students in a Policy Design learning activity as a part of an Art and AI learning workshop. Students worked in groups to create policies around AI's use in art, considering stakeholders like artists, AI companies, and consumers. Findings revealed that students developed nuanced, actionable policies that reflected a deep understanding of AI's impact on the art ecosystem, including issues of copyright, artist compensation, and transparency. The activity empowered students to think critically about AI's ethical implications on various systems in the AI and art ecosystem and fostered a sense of agency in shaping its future. This work demonstrates the value of integrating policy design into K-12 AI curricula, providing youth with the skills and perspectives to become informed, ethical citizens in an AI-driven world.

Introduction

Artificial Intelligence (AI) tools and algorithms have found applications in several critical systems that have long-term impact on youth, such as education, mental health support, and the justice system (Su and Yang 2022; Ehsan et al. 2022; Shaheen 2021; Zhai et al. 2021; Završnik 2020). AI literacy is deemed a 21st century skill, with several K-12 AI literacy curricula suggested in recent years (Casal-Otero et al. 2023). The United Nations Educational, Scientific and Cultural Organization (UNESCO) outlined a framework for AI competency, where the first core competency aspect is human-centered mindset and learning focusing on human agency, human accountability, and citizenship in the era of AI (Miao, Shiohira et al. 2024). Current AI literacy frameworks and approaches focus on teaching and learning AI concepts, and constructionist approaches pose youth as makers of AI systems and ready them for future AI careers (Casal-Otero et al. 2023; Ali et al. 2019; Williams et al. 2023; Lee et al. 2021; Ali et al. 2021b). However, AI is a socio-technical system with personal and communal impacts, and influences other disciplines, such as healthcare, art, sports, etc. For instance, generative AI systems may have a lasting impact on artist careers, lead to biased representations and stereotypes in generative art, and produce inequities in the digital art ecosystem (Jiang et al. 2023). Therefore, it is essential for students in non-computing classrooms to gain critical AI literacy skills to prepare them for the impact of AI on their future careers. Additionally, critical AI literacy must not end with learning about the ethical implications of AI, but providing students with the voice and power to realize their human agency and citizenship in an era of AI. One form in which agency is realized in minimizing the harm of technology, is making policies governing the use of AI. In this work, we engaged middle and high school art students in an AI literacy workshop as applied to art learning. The 25-hour workshop focused on students experiencing artistic applications of AI through interactive tools, discussing the societal and ethical implications of AI, and applying their AI knowledge to build art projects (Ali 2025). Guided by critical constructionism principles (Holbert, Dando, and Correa 2020), and approaches in critical machine learning and data science literacy initiatives (Famaye et al. 2023; Diederich and Nguyen 2024; Lee et al. 2022), the workshop consisted of 10 hands-on activities that consisted of creating art with AI tools, using AI to reflect on their own art style, and reflecting on the individual and societal implications of AI on artists. In this paper, we outline one of the ten activities called Policy Design that focuses on learners' human agency and citizenship as artists in an AI world. Guided by an instructor, learners were made aware of principles of policy design: identifying stakeholders and values, ensuring clarity for key stakeholders, and making policies that are concrete, implementable, and measurable, while focusing on one goal at a time. Students then worked in groups of four to design policies around the use of AI in creative work, as outlined in the design section. Finally, students shared their policies with the class, discussed how their policy will be implemented, and gathered feedback from their peers. We conducted the policy design activity with 94 US middle and high school students as a part of the Art and AI workshop. In this exploratory work, we outline the Policy Design learning activity as a K-12 AI learning resource, report findings from implementing the policy design activity with middle and high

school students, and discuss implications for designing critical AI learning programs for young art learners.

This learning activity is a teaching resource for educators aiming to engage young learners in gaining socio-technical literacy. In line with prior work utilizing unplugged learning resources to make socio-ethical perspectives in AI accessible to all classrooms (Ali, Kumar, and Breazeal 2023), we introduce an unplugged discussion and design based activity in this work. While in this work, students are designing policies around Art and AI, this unplugged activity approach can be adopted for other socio-technical literacy contexts that involve multiple stakeholders, such as designing policies around digital learning tools in schools.

Situating Learner Agency in Socio-technical Literacy

Our pedagogical approaches for facilitating learners' critical engagement with AI for artists were derived from critical constructionist perspectives (Holbert, Dando, and Correa 2020) of engaging students in a cycle of connection and critical reflection about their creative AI knowledge, providing learners an opportunity to infuse their own perspectives and values into their creation. We also base our methods on prior work in Artificial Intelligence and Machine Learning (AIML) and Data Science (DS) literacy that suggest an integrated ethics approach for critical literacy (Zhang et al. 2023; Lee et al. 2021; Williams et al. 2023; Ali et al. 2021a), where learners are engaging with ethical AIML and DS concepts in tandem with technical AI literacy.

Moving a step further, we use the critical constructionist concept of affording learners the agency in creating change in systems of inequalities within society through policy design governing socio-technical systems. Students gain critical consciousness of systemic issues around AI in creative fields and move on to praxis, or action aimed at transforming the world. In this AI learning activity, praxis takes the form of designing policies for the use of AI in creative industries. This facilitates learners gaining knowledge about various stakeholders in the AI art ecosystem while considering the impact of AI for each stakeholder, designing pathways to reduce harm caused by AI, and speculating on positive futures created by the implementation of their policies. By centering learner agency, we gain insights about youth's concerns about AI, and their creative ideas of minimizing potential harm for artist communities.

Methods

Learning Context: Art and AI Workshop

The Policy Design learning activity was a 3-hour learning module situated within a larger 25-hour Art and AI workshop. The goal of the Art and AI workshop was to engage middle and high school students in AI learning as relevant to art-making. Learners interacted with AI tools to create art in different modalities, learned about how generative AI algorithms such as diffusion models work, used AI to study art styles, art techniques, and art history, reflected on the impact of AI on artists, designed policies around AI in art, and created art projects that utilized AI. The workshop was aimed at readying future artists to leverage emerging digital tools of creation, using AI to aid their creative process, and raise awareness around the impact that AI has on art and artists.

Learning Activity: Policy Design

Through previous activities in the Art and AI workshop, students gained awareness about the societal impacts of using AI for art making through instructor-guided case study discussions (E.g. "Artist lawsuits on AI companies over unfair use of their datasets") and reflection prompts (E.g. "How would a generative visual art system impact painters?"). Students had vastly diverse perspectives on how AI impacts them, both positively and negatively. When the instructor discussed societal challenges that emerging technologies like AI present, such as the impact on artists' jobs, the instructor prompted students to think about how such challenges can be tackled. Students verbally expressed ideas such as *"fair compensation for artists"*, or **"no art usage without the creators' consent".** The instructor then asked students *who* do they think makes these rules and enforces them. Answers ranged from *lawmakers*, to *government*, to *voters*, to *policy makers*. Post this discussion, the instructor guided students into the Policy Design activity, which positioned learners as policy makers and led them from identifying these social implications to taking meaningful action through designing policies that govern the usage of AI in their world. Here, we make a shift from critical pedagogy, that is typical of K-12 AI curricula, to action-oriented pedagogy. This lesson sequence first fosters critical consciousness in learners, and then pivots toward praxis, or students applying knowledge to take informed, meaningful action (Freire 2020).

To scaffold the policy design activity, students first learned what makes a good policy: it should be brief, clear, actionable, and takes into account all stakeholders impacted by the policy. Students were given prompts to guide their policy designs. Students worked in groups of 4-5's to debate policies around one of the following five topics of their choosing:

1. A set of policies for how AI should be used and not used in industries that employ creatives, such as by filmmakers, news companies, design agencies, architecture firms, music studios.
2. A set of policies for how AI should be used and not used by creative individuals, such as artists, writers, musicians, etc.
3. A set of policies for how the artwork that is uploaded on the internet can be used by AI companies to train their AI
4. A set of policies governing the sale of AI-generated artwork: who should profit from this sale and how?
5. A set of policies governing the use of AI in their classroom.

These prompts were chosen in alignment to the learning goals of the Art and AI workshop, where students consider the implications of AI in art industry, for artists, for the art economy, and in art learning spaces. The prompts also aim

to guide students to consider different stakeholders in the AI and Art ecosystem.

Students were given the following framework: They set an agenda for their topic. They identify a problem area within this agenda, and each student makes a policy suggestion. Students discuss and come to a consensus about their chosen policy. Students consider how they wish to communicate their policy and how it will be implemented in the future and how it will be evaluated. This mirrors a typical policy making process of actual governance, except it does not consider the role of the judiciary that checks the constitutionality of the policy.

The learning objectives of the policy design activity were for students to:

- Gain awareness of different stakeholders involved in the AI and Art ecosystem.
- Communicate clear, concise and actionable policies.
- Consider the impact of the suggested policies on society.
- Work in groups to consider diverse perspectives on policies.
- Advocate for their policies and reach group consensus to suggest a policy design.

We study participants' within-group discussions, policy design artifacts, and reflections on their policy design methods to understand which learning objectives are reached, and home students makes sense og the impact of policy on AI design.

Participants

94 participants (Female (54), Male (40)) participated in the Policy Design activity as a part of four out-of-school Art and AI workshops (2 in-person and 2 remote via Zoom). All participants were in middle or high school (grade 7 to 11) at the time of the workshop. Participants were recruited through an open call of participation in an AI and Art learning research study made using fliers, outreach partners, and mailing lists. A majority of students in these workshops indicated having an interest in art. Participants worked in groups of 4-6 students to discuss and form their policies. All participants and their parents in this workshop had consented to their artifacts, video and audio data to be recorded as part of the research study. The study, consent mechanisms, and data collection protocol was approved by the Massachusetts Institute of Technology's Institutional Review Board (IRB).

Data Collection and Analysis

Participants presented their designed policies by first documenting their suggested policy in a shared Google Slides file, and then sharing their policy design and rationale with their peers. We recorded all policy designs from their shared Google Slides, and recorded audio for both (1) discussions leading up to the policy design, and (2) presentation of the policy and its rationale to their peers. Data analysis focused on exploring whether learners considered multiple stakeholders in the AI and Art ecosystem, what they concluded each stakeholder's role was, their considerations for designing policies, their ideas to implement their policies, and the impact on an imagined world where these policies are implemented.

In the following findings, we aim to center and *situate* youth agency in networks of the different actors and stakeholders they see as playing a role in the AI industry. Our analysis adopts an Actor Network Theory (Latour 2005) inspired approach, which offers us tools and examples to see the relationships between different kinds of actors, differentiated by role (artists, prompters, consumers), scale (people, businesses, governments), and power (technology businesses, policymakers, artists). Actor Network Theory is particularly germane to investigating complex relationships of human and non-human actors, and different phenomena and actors acting as mediators or translators of these relationships shaping activity. Combining different youth descriptions to highlight the various possible actors and relationships has the potential to inform the evolving work on complicating the understanding of different *agencies* involved in the rapidly evolving generative AI industries (Bar-Gil 2023). It also offers references for future educational and research projects to build on towards learning, studying, and understanding the social consequences of these AI tools and practices (Morton 2025).

Findings

Across the four student workshops, 94 students across 13 different student groups successfully developed and communicated their policies. All groups appointed a spokesperson to communicate their policy. Of the 13, 12 considered multiple stakeholders in their policy design. Three stakeholders that all groups considered were the user of the AI tool, the creator of the AI tool, and the original artwork creator. Some groups also included the government (2 groups), and the AI company (1 group).

8 out of 13 groups had guidelines for implementing the policies. A group in Workshop 4 designed a policy for **Topic 1** (AI for creative industries), shown in Table **??**, where they include the earlier listed actors, effort and pay as key mediators, and consequences of failing to follow the policies including a *fine* and *removal* of the art. This group also valued the human input in co-creative processes. For instance, they suggest that any form of creative product (e.g. a movie, architecture, music) should be at least 60% original and at most 40% AI-generated. Like this group, six groups valued transparency, where they discussed how AI-generated artwork must clearly be marked so.

Students considered the impact of their policy on different stakeholders. Most often, students expressed how fairly compensating the original artist or creator of the dataset will positively impact them.

All groups working on designing policies for **Topic 2** (how AI should be used and not used by creative individuals) expressed that the use of AI for getting ideas, inspiration, and feedback is acceptable. Two groups specifically expressed how using AI for the entirety of the project should not be permissible. All but one team also explicitly wrote that when AI is used in the creation of the artwork, AI must be included in the credits. Learners had experience in both creating entire artwork using AI, and using AI in different

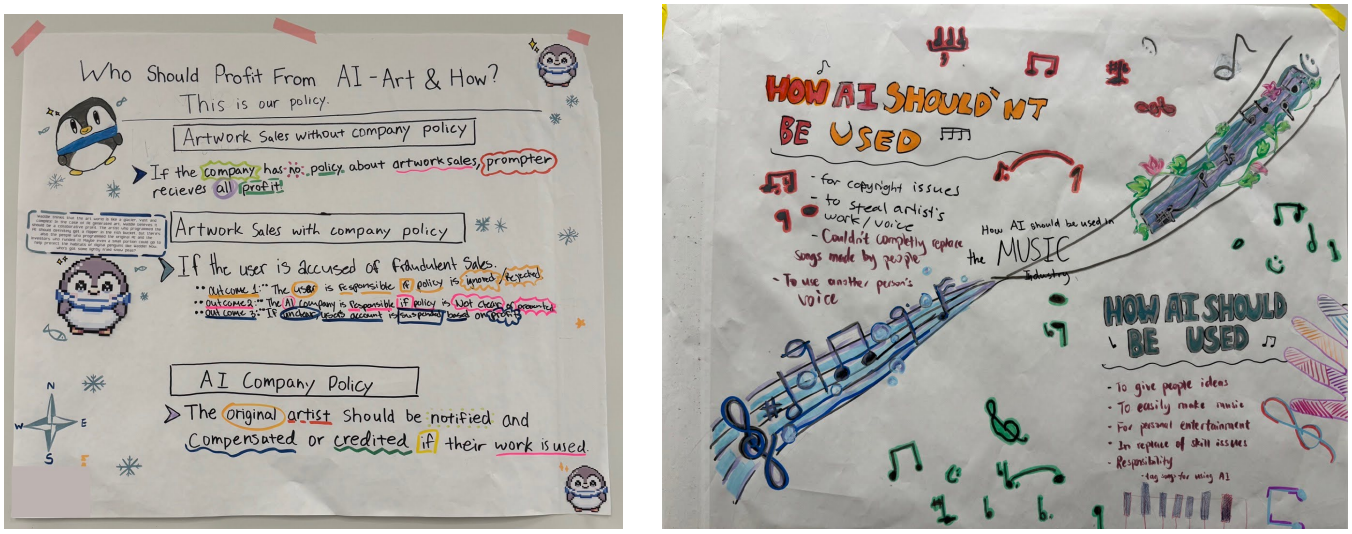

Figure 1: Student posters outlining policies around how AI should or should not be used.

Student response (Workshop 4)
• Companies in the creative topic should not use applications such as ChatGPT and other AIs without giving credit prominently in their credits. • Any form of creatives, including but not limited to, movies, designs, videos, pieces of architecture, music, should be at least 60% original and at most 40% AI-generated. The percentage of AI-generated content should be very clear in your form of creative. • Not creating anything that could be used to harm others or other people's reputations should not be made and will be taken down when posted. Further fines will also be enforced. Do not use AI to animate real people. • The AI company and the original creator in the dataset of the AI should be paid royalty for each media sold. The amount will be determined to how much the content was AI-generated and how much the media sold for. • If you fail to follow any of rule 1, 2, 3, or 4, your form of creative should be taken down and the organization who made it will be fined.

Table 1: Student responses to *Topic 1: Policies for how AI should be used and not used in industries that employ creatives, such as by filmmakers, news companies, design agencies, architecture firms, music studios*

parts of the creative process. As artists, during policy design, they tended to value using AI in idea generation, and feedback stages more than production stages of the creative process.

All groups but one in Workshop 2 were able to work together and reach a consensus after considering diverse opinions about **Topic 3** (how artwork uploaded on the internet can be used). One group strongly believed that no dataset should be used without explicit permission from the person who uploaded it. Another group strongly believed that all datasets should be used for training AI, but the original artist must retain some ownership over the art, as this would benefit everyone. The first group argued how this is difficult to implement. A student from the second group said, *"If artists can use the internet to display and sell their art, why can't others use the internet to make their programs. One group does not own the internet."* Eventually, the groups reached an agreement that AI companies may use all datasets available, but the artists need to *"check off on the final artwork created, and get a percentage of the cut"*.

This discussion brought up the **medium of the internet** as an actor, and a conflict around the extent to which its affordances and *translations* are accessible and usable towards different goals or not. There is a similarity drawn between using the internet for selling art (an action from artists to consumers) and using algorithms on art placed on the internet (AI companies and creators to artists' art). This is an actively contested matter in US legal systems in 2025 (Nguyen and Porter 2024), and includes a debate on the practicality of preserving ownership, and including a bidirectional relationship between artists and AI companies including pay and **consent** from the artists' end. The conflict and final agreement can also be summarized in terms of the *location* of this **consent** – shifting from the duration of the AI's training (considered unfair) to during the distribution of AI produced materials.

While speculating worlds where their policy is implemented, one group (that designed the 40% - 60% cut for the artists and AI) mentioned, *"Everyone is winning this way, and the rules will be clear, so everyone knows what they are getting into. I think we may get more art then. But maybe we won't be buying anything if there is so much art."* Another group that suggested the original artists must be fairly com-

pensated said that, *"In this world, artists will actually get another platform. And it's opting into this option, so it is not like someone stole it. I also, I sell art too. I think artists can use some money."*

Students were also collectively asked to consider *who* should be involved in making policies governing the use of AI tools. Students from workshop-4 collectively agreed upon the key actors as shown in Table **??**.

Student response (Workshop 4)
• AI companies: People working in AI companies should bring awareness to what information AI is taking in and making sure it doesn't contain data that could harm other
• Teachers - School Board: Staff should be aware that AI can be used to complete assignments without the students' use of knowledge. Staff should allow AI to be used for the need of reference if help is needed, but not to complete work for the student.
• Government: If people were to use AI to cause any national issues, the government should come in and solve the issue
• Artists: Artists should not use other people's artwork and manipulate it to become their own by making an AI generated piece. If you want to use someone's work for particular reasons, get approval from the original artist first.

Table 2: Student responses to: *Who should be involved in making policies governing the use of AI tools?*

While learners acknowledged these multiple stakeholders as decision makers, the attribution of artwork towards these stakeholders varied. For instance, Table **??** shows the policy design from a group from Workshop 3 designing policies for **Topic 4** (the sale of AI-generated art):

Student response (Workshop 3)
• The User Gets 40%
• The Creator gets 10%
• The Original Artwork Creator gets 50%
• Please follow policies
• If you don't comply, you will be fined for €2,000

Table 3: Student responses to: *Topic 4: A set of policies governing the sale of AI-generated artwork*

Here, students examined the roles of the **user of the AI tool**, the **creator of the AI tool**, and the **artwork creator**, while vigorously debating an equitable **distribution of profits**. Over here, it's noticeable that the **creator of the AI tool** is a very different kind of actor – in contrast to the other two, that are often individuals, the creators of AI tools are often large organizations occasionally identified by their publicly visible owners more than any specific engineers or creators of the tools. Additionally, while deciding a profit split, this group allotted the highest percentage to the original creators of art that form the training data, while justifying that without the artists, *"the whole system will crumble"*. Similarly, another group in Workshop 2 landed on a 40-60 split, where the artist gets 40% and the AI company gets 60%, and the rights of the art should belong to the AI company. This group centered their debate on the stakeholder who has spent the most amount of time on the creation of the artwork. After much internal disagreement, a group from workshop 3 involved the rest of their classroom to hold a democratic vote around the profit split. Figure 2 demonstrates students voting on profit splits of AI-generated artwork. This highlights two key measurements shaping these relationships–**pay**, and **effort**. One student deepened their articulation around the value of effort as they argued,

> *"If you only write a word, and you get a bunch of money for that? I don't think so. Maybe if you wrote, like, specific, a beautiful blah blah blah cat in a beautiful garden in Paris, maybe you should get a little bit more money. It should be about how much effort you put into it, and the rest of the money should go into the dataset."*

Another student adds on to this this argument by conceptualizing *valuable* effort corresponding to the creation of art also as a function of consumers' taste and evolving preferences .

> *"I don't really think it should be about effort, because humans may be like kind of dumb after AI but we are not so dumb to just buy every beautiful thing that people make with no effort. Because you just put a cat and you see this beautiful image. But what if humans start seeing so much of those, that only the people who put effort in it, would be able to sell their art, and the user of making the art, they are investing, because they are, kind of, paying for the platform, and it's their chances to see if they can actually make good art with it to earn the money."*

This quote brings in the role of the **consumer(s) of the art**, especially as a **collective** agency with evolving taste and shaping what is rewarded, rather than just a function of individual consumers/collectors shaping what is considered good art worthy of reward. Two students in Workshop 3 also individually expressed that perhaps *no one* should profit from AI-generated artwork, since any split of attribution and ownership will remain *"unfair to all the parties involved"*.

Through these discussions students demonstrated nuanced understandings of how different stakeholders can be affected by AI, copyright and data privacy issues, datasets used for training the AI, and possible implications of the policies.

A contrasting analysis emerges in a group discussing **Topic 5** (the use of AI in classrooms), where they place all the responsibility of not using AI to write answers on students (themselves!), in the form of rules about when AI should or should not be used. They summarized their ideas as policies in Table **??**, where they recognized the benefits and harms of AI in the classroom. This policy summary treats much of the current education and testing system that youth experience as foxed and appropriate, and introduces

Figure 2: Students voting on policies around which stakeholder must profit from the sale of AI-generated artwork

aspects of monitoring and prohibition without articulating who will be conducting either and whether it's possible to be just and equitable in implementing such policies.

Student response (Workshop 2)
• AI should not be used by students taking tests or other assessments to give the student the answer. • AI should only be used after the test to correct answers and explain the incorrect answers. • If a student uses AI, it should only be used to understand a question during the assessment • If a student uses AI during the test, it should be monitored

Table 4: Student response to *Topic 5: A set of policies governing the use of AI in your classroom*

It is starkly noticeable how students don't place their agency in the creation of policies around the use of AI tools despite actively doing the same in these workshops. At the same time, they include AI-tool users and artists under the category of artists–the most analogous actor to students as users of AI–and do place agency on them towards being responsible and ethical users. This might be due to one of the key ways students' relationship to education and AI is different than artists (as conceptualized across all student groups)–the lack of a monetary dimension to what students gain or lose from using AI during learning.

Student groups also chose to make posters to illustrate their policies (Figure 1). One such poster described how they believe AI shouldn't be used (for copyrighted data, to steal artists' work / voice, and use other people's voices), and how it should be used (to give ideas, for personal entertainment, in replacement of skill issues, and responsibly). Another group of students suggested the Artist Protection Against AI Act (APAI) that suggested a formula for monetizing artists, that is a percentage of the profits made by AI companies (3).

Discussion

Participating youth met all five learning goals of the activity, and engaged in compelling debates around policy making and its implications. In this work, we discuss how students' literacy about the impact of AI on artists, and their practice in designing policies led to students designing policies around the use of AI in creative fields. Students demonstrated awareness of multiple stakeholders impacted by AI, and the power imbalances in the AI and Art ecosystem, expressed their hopes and concerns about AI as art learners and future artists, and assumed the role of policy makers that play a key role in shaping AI futures.

In their work on the role of children in the design of technology, Druin Druin (2002) discusses how children play the key roles of not just testers and users of emerging technology, but also informants and design partners. Elsayed-Ali et al. (2020) used co-design methodologies to enable children to create value sensitive design ideas for novel technologies. We extend this line of work that centers children's beliefs and values for the design of technology to the design of policies governing the technology. Students advance from developing a critical consciousness of the impact of AI technologies, to applying their knowledge to take informed, meaningful action (praxis). We repeatedly remind how emerging technologies such as AI are not just technical systems, but socio-technical systems, which have personal and societal impacts on children's lives. It is then important for youth to be active participants in not just the design of the technology itself, but the design of the systems that govern the impact of the technology on human life, such as, technological literacy, ethical use of technology, or policy making and governance. The policy design and poster design activities gave us a unique lens into children's values about the ethics of AI systems, their attitudes around AI's use in art, and platform their ideas about preferred actions to promote (their) desired use of AI.

Summarizing youth work around analysis and designs of these socio-technical systems and surrounding policies, we see youth describe **AI companies and creators** as both **shared users of the internet**, and answerable participants in the art **economy** and ecosystem. We also see them wrestle with the responsibility and desires of different kinds of artists–those intending to **contribute to AI** technologies, and those intending to **collaborate with them** for producing more art. In the dimension of collaboration, we see youth explicate ideas around the dynamic value of **effort**, shaped at the intersection of artists' work, **consumers**, and broad **temporal trends**. Additionally, we see parallels between the stakes they identify in the role of AI in art and in education,

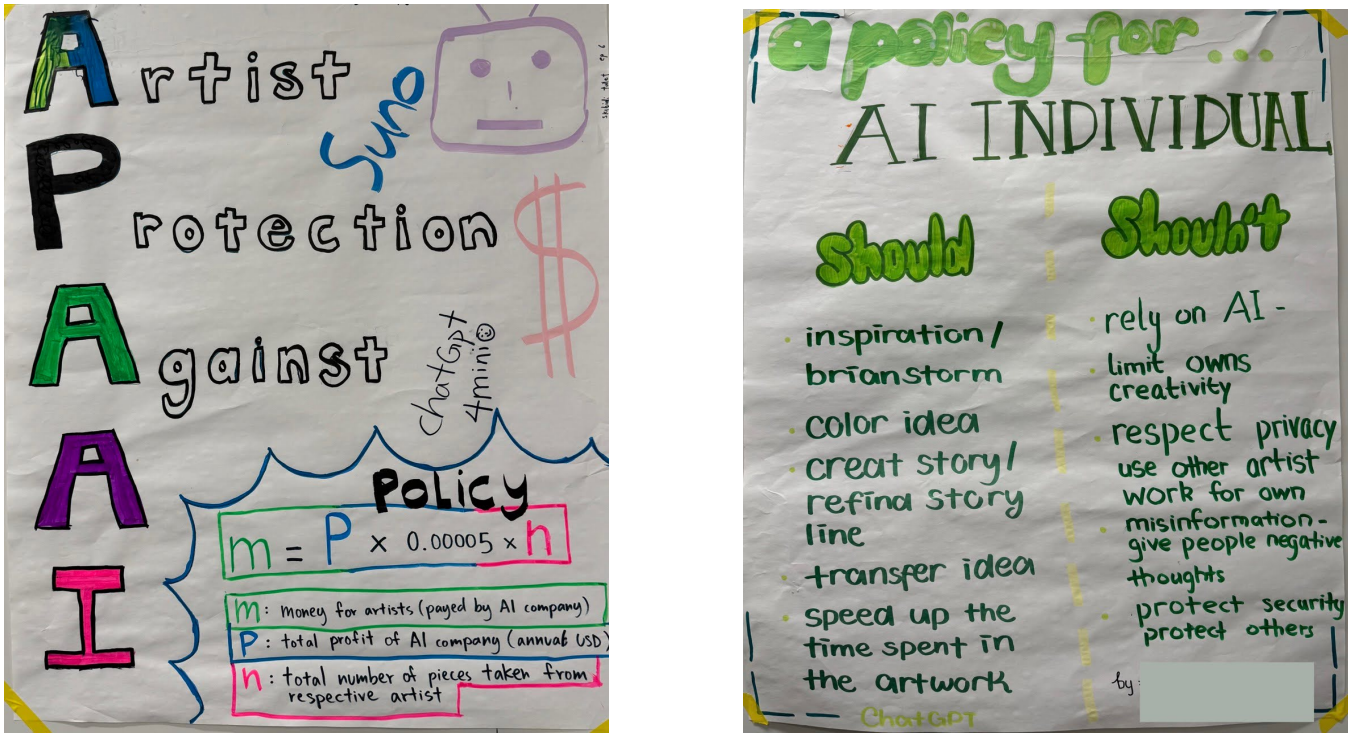

Figure 3: Students posters about policies for (1) an AI individual, and (2) Artist protection against AI.

and also contrasting ways they situate their agency in these two ecosystems as artists themselves, and as students.

The Policy Design critical learning activity accompanying an AI and Art curriculum provided young art learners with the agency to voice their opinions about policies governing its use. The Policy Design activity also encouraged participation from youth who were not inclined towards future careers in building AI systems, but alternate careers that can impact and are impacted by AI, such as art. Youth could voice their perspectives and concerns about AI from their positions as artists and art learners, with an interest in future art careers. Learners expressed positive impacts that AI can have for artists, such as creating new mediums to create art, gaining personalized feedback, and share their art more widely. The activity design also facilitated their consideration of multiple stakeholders in the AI and art ecosystem, such as art companies, buyers of art, individual artists, AI companies, and art schools. Critical reflection and action activities such as the Policy Design activity highlight the optimism and concerns of future artists, and make them active citizens in an AI world.

While this work is an initial starting point in designing and discussing policies around emerging technology with youth, the work does not venture into applying these youth design policies in real-world design or regulation. In future work, we aim to build avenues to channel youth's policy ideas to real-world policy makers, and co-designing institutional policy consideration documents with youth. This work also only engaged one group of youth from the Greater Boston Area. In future work, we aim to study how youth of different age groups, and in different geographical locations highlight considerations in policy design differently. Finally, this work engages youth in isolation designing policies with their peers. In future work, we aim to study how young learners work with educators, policy makers, and AI designers to make these policy designs actionable.

This learning activity suggests one approach of targeting UNESCO's AI competencies - human agency, human accountability, and citizenship. This exploratory work suggests an approach to include learner agency and critical reflection in socio-technical learning trajectories. We contribute the Policy Design activity as a learning resource for teaching K-12 students promoting key AI competencies, and critical thinking. This learning resource provides an unplugged approach to engage middle and high school students in ethical AI learning, and shape AI systems from a unique vantage point – that of a policy designer.

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