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UNDERSTANDING THE IMPACTS OF GENERATIVE AI ON CHILDREN

by The Alan Turing Institute

Anish Fonseka - **Journal Club** - 25/08/2025

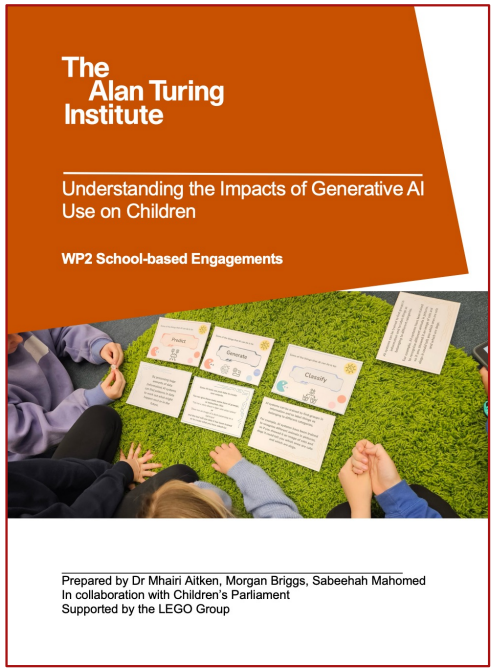
Introduction / Goal of this Journal Club

LIRNE is looking at the role of AI in Education.

Goals: developing a **national roadmap** for using AI in education, **researching impact** of AI in education, **pilot** testing projects and assisting practitioners and policymakers. E.g. Ek-Step Project / UoC LLM Experiment

This report consists of:

1. [Quantitative] **Survey** on the attitudes and experiences of children, carers and teachers
2. [Qualitative] School-based **workshops** which observed how children interacted with Gen AI and recorded their feedback.



The Alan Turing Institute is UK's national institute for data science est. 2015. Five founding universities (Cambridge, Edinburgh, Oxford, UCL and Warwick), headquarters in British Library. The report was **funded by the LEGO group.**

Findings, are very UK specific, so they have **limited transferability**. We want to focus on the research method.

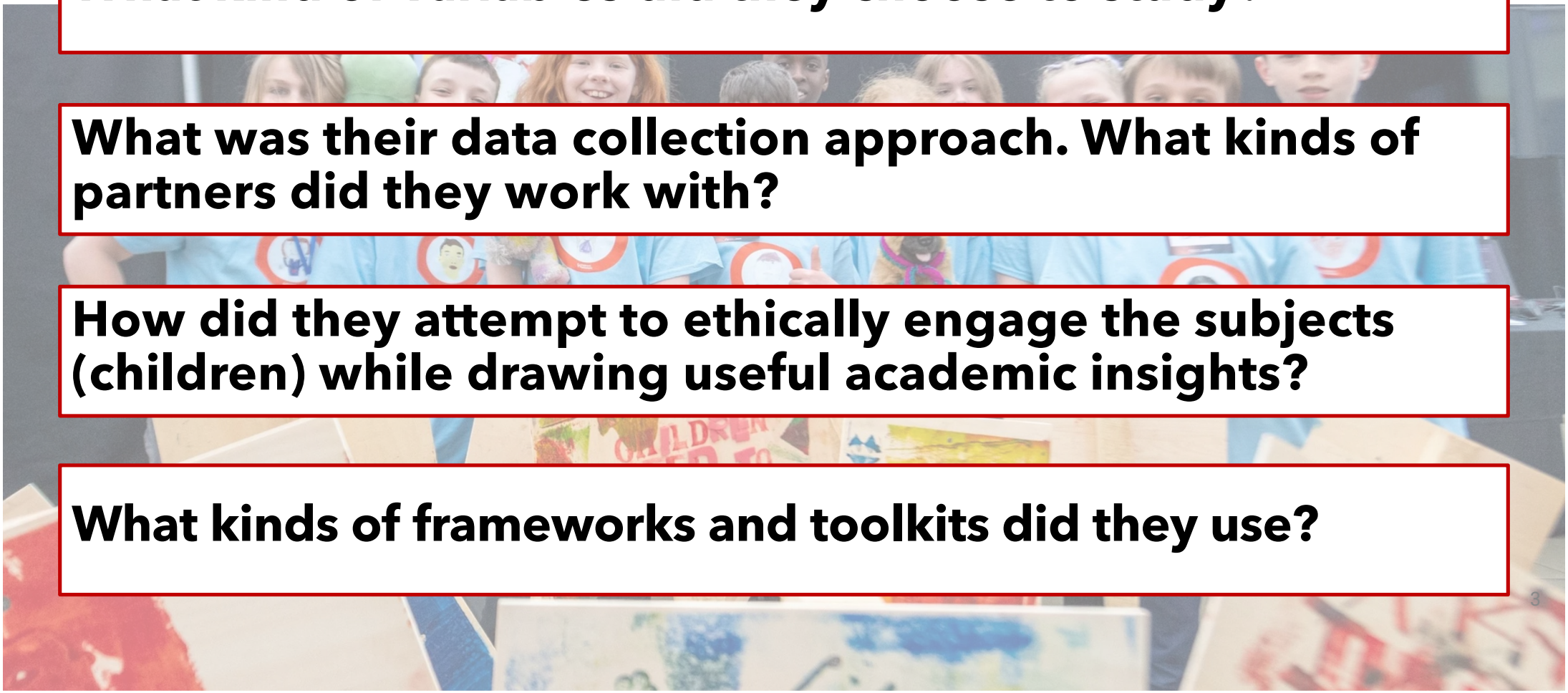
Introduction / Goal of this Journal Club

What kind of variables did they choose to study?

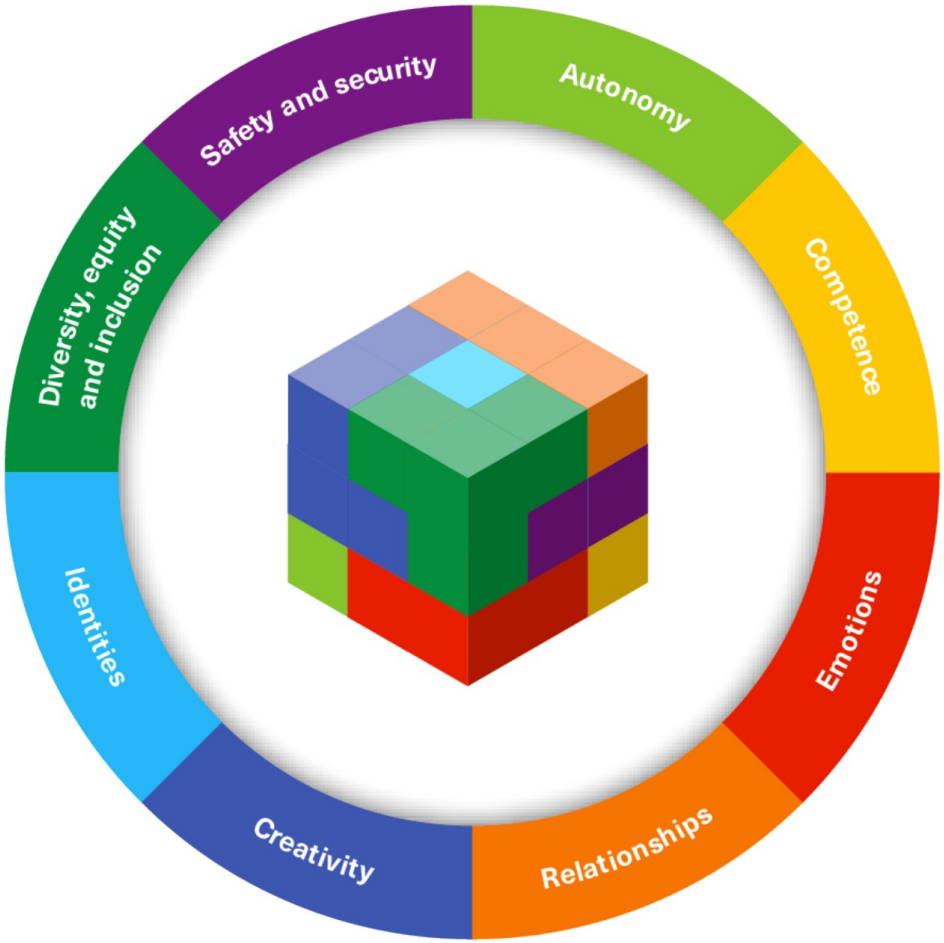
What was their data collection approach. What kinds of partners did they work with?

How did they attempt to ethically engage the subjects (children) while drawing useful academic insights?

What kinds of frameworks and toolkits did they use?



RITEC: Framework for Evaluating How Digital Tech Affects Children's Wellbeing



Responsible Innovation in Technology for Children: developed by UNICEF in collaboration with the LEGO Foundation.

- **Autonomy:** freely chose to engage with digital play.
- **Competence:** digital play contributes creates a sense of mastery
- **Emotions:** digital play allowing children to experience and regulate emotions.
- **Relationships:** facilitating social connection and a sense of belonging.
- **Creativity:** Encouraging curiosity, imagination, invention and experimentation.
- **Identities:** Providing space to explore, construct and express facets of themselves and others.
- **Diversity, Equity & Inclusion:** representing and serving diverse children and childhoods.
- **Safey & Security:** feeling safe and being kept safe.

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Work Package 1: SURVEYS

WP1a: Surveys of Children, their Parents or Carers

Sample:

- 780 children aged 8 to 12
- Using YouGov platform which had a panel of over 2.5 Mn people.
- Nationally representative quotas of adults aged 18+
- Figures were weighted to ensure that they were representative of all UK children aged 8 to 12 by age and gender.

Survey Design:

- Consent was required from both the child and carer.
- Parents were asked some demographic questions and asked about their personal use of Gen AI and awareness of children's use.
- Then the survey was handed over to the child.
- If one household had multiple children within the 8 to 12 demographic, the survey was given to the youngest child.
- Included open-text and multiple-choice questions.
- Common words and concepts in open-text answers were analyzed.

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WP1a: Surveys of Children, their Parents or Carers

Examples of Questions for Children:

- Have you heard of the term 'generative AI' before?
- Have any adults in your life ever talked to you about what AI is, or how it works?
- How often do you use generative AI?
- Children were shown a list of popular generative AI tools and asked to indicate which they used.
- They were then shown activities and asked to indicate which they used generative AI for.
- Children gave free responses to hypothetical scenarios. Such as: "imagine your teacher or guardian has given you homework to found about the longest rivers in the world…Where would you go to find out?"

Examples of Questions for Parents:

- Parents and carers were given a set of statements and asked to rank ranging from 'very concerned', to 'very unconcerned'.
- Do you use generative AI tools yourself?
- Are you aware of your child using generative AI tools?

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WP1b: Surveys of Teachers

Sample:

- 1,001 teachers working with students aged 1 – 16 years old.
- Participants were sourced from Prolific using screeners.
- Quota of 76% female and 24% male to reflect gender make-up of England's teaching workforce.
- Due to the size and demographic composition of Prolific's pool, not a fully representative sample.

Survey Design:

- Included open-text and multiple-choice questions.
- Recorded demographic details such as public v. state school, male v. female, region etc.

Examples of Questions for teachers:

- What are you using generative AI for in your work?
- Agree or disagree: "Generative AI can make the process of marking student work fairer."
- Agree or disagree: "I believe I would be able to tell if a student submitted work that had been made with generative AI."

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Work Package 2: WORKSHOPS

WP2: Workshops – School Based Engagements

Sample:

- Worked with Children's parliament [CP] to develop a rights-based approach to the engagements.
- Two schools were selected from CP's network in Scotland. Total 40 children.
- Dundee school. Combined P5/P6 (ages 9-11). Total 22.
- Edinburgh school. P7 class (ages 10-11).

Workshop Preparation:

- ATI & CP designed the workshops together.
- CP visited the schools in advance and observed classrooms. Held preparatory meeting with teachers.
- As schools differed in resource ability, the researchers brought their own laptop, hotspot and color printer.
- Similarly new traditional art material was also brought by the researchers.
- Selected ChatGPT because it was used most.

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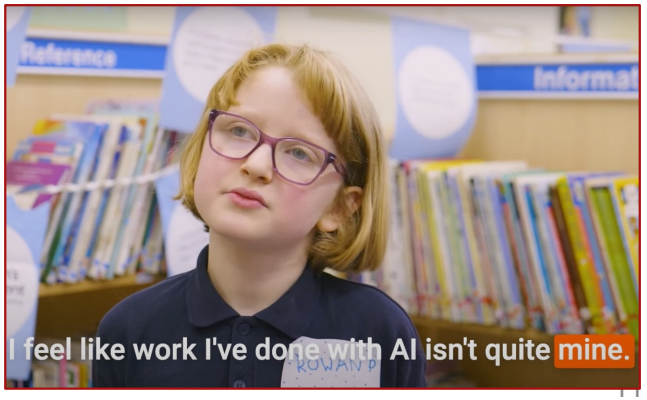
WP2: Workshops – School Based Engagements

Day 1 (9 AM – 3PM):

- Introduction to team, icebreakers.
- Introduction to children's rights & UNCRC – jigsaw activity, big book of promises and human dignity.
- Introduction to AI: An interactive presentation.
- Group activity: AI generated cats.
- Group Discussion
- Introduction to online safety.
- Demonstration of Gen AI.
- Prompt-writing challenge.
- Creative activity: children have time to use both traditional art materials and generative AI.
- Final reflections.

Day 2 (9AM – 3PM):

- Check-in and recap
- My future self activity: Children think about what makes them unique.
- Group Discussion / Messages to developers and policymakers written on a large poster board.
- Day long creative activity: Children can use traditional art materials and/or Gen AI to create an art piece that represents their future self.
- Children show off their work to their classmates.
- Group Discussion.
- Final reflections.



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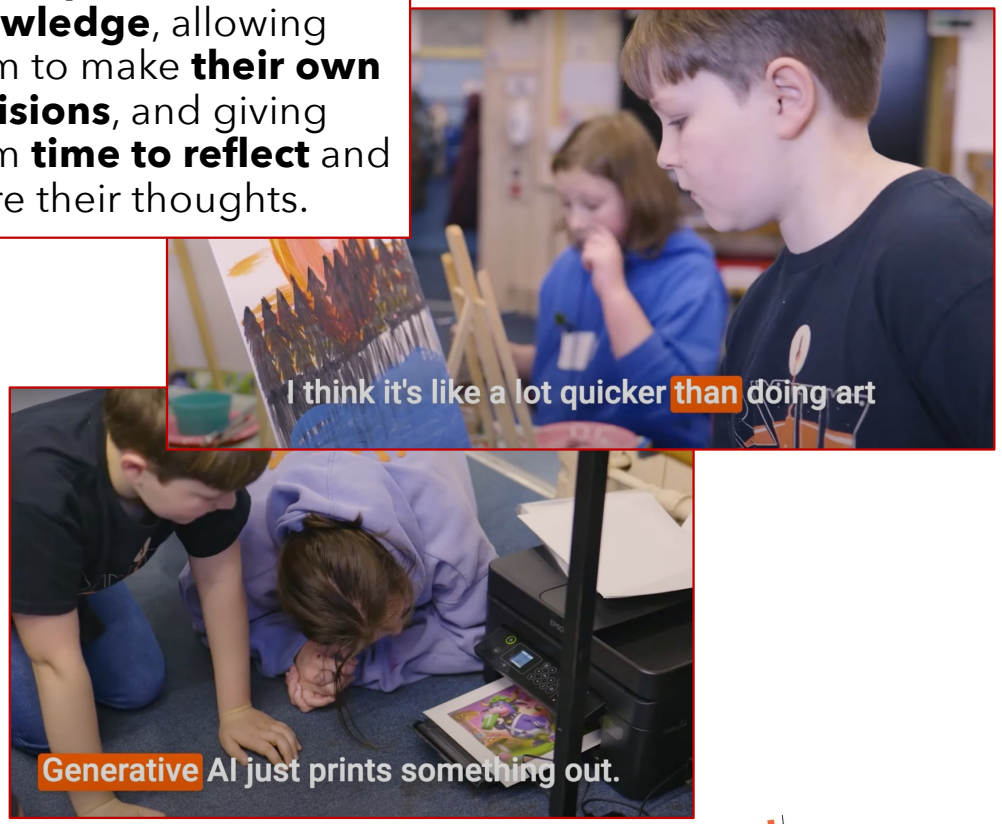
WP2: Workshops – School Based Engagements

Day 3 (9 AM – 3PM):

- Check-in and recap
- Reflective activity on creative process / Messages to developers and policymakers written on a large poster board.
- Interactive presentation on Gen AI: Current Uses and Limitations.
- Creative activity: Children create zines about the ways Gen AI should or shouldn't be used.
- Group Discussion
- Group activity: Mapping emotions. Children are asked to write how they feel when using Gen AI.
- Creative activity: Create something that reflects how they feel about Gen AI.
- Group discussion / messages to policymakers.
- Final reflections.

Each day was curated to **build upon** children's **knowledge**, allowing them to make **their own decisions**, and giving them **time to reflect** and share their thoughts.



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WP2: Workshops – School Based Engagements

Recording Findings

- Research team took notes throughout.
- In note-taking, templates were mapped to the eight elements of the RITEC framework.
- Under each factor, a few guiding questions were developed with consultation of research at CUNY, Uni of Sheffield, NYU etc. These were prompts to ensure RITEC dimensions were captured throughout.
- Additionally, blank sheets of paper were provided for general observations.
- Saved all the prompts typed into ChatGPT

Analysis

- Some broader themes emerged through the children's engagements and reflections e.g. environment, trust and future uses of AI.

Ethical Considerations

- Study was developed in consultation with a range of experts in child protection, children's rights and research ethics.
- The study was reviewed and approved by ATI's Research Ethics panel, following primary and secondary review by an experts panel (included LEGO group, Children's Parliament and members of the RITEC project).
- Team completed a data protection assessment process w/ ATI's in-house team. Completed a Safeguarding Risk Assessment, which is an internal protocol for dealing with <18 yr olds.
- To address risk when interacting with Gen AI tools a robust safeguarding protocol was developed where the child had to ask the researcher to input their prompts and the output was screened.

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Summary & Discussion

Synthesis of Findings

Gen AI – when developed safely – can support young people with additional learning needs

- Students with additional learning needs [ALN] particularly enjoyed using Gen AI.
- 53% of ALN reported always using Gen AI to help express thoughts they couldn't easily communicated on their own vs 20%.
- Teachers were more optimistic for ALN.

Children are at risk of being exposed to harmful or inappropriate outputs.

- In workshops, simple prompts occasionally led to inappropriate outputs.
- In survey, parents held concern about exposure to inappropriate (82%) or inaccurate information (77%)

Differences in positive experiences & expectations across social group, identity etc.

No Standardization Among Teachers.

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Synthesis of Findings

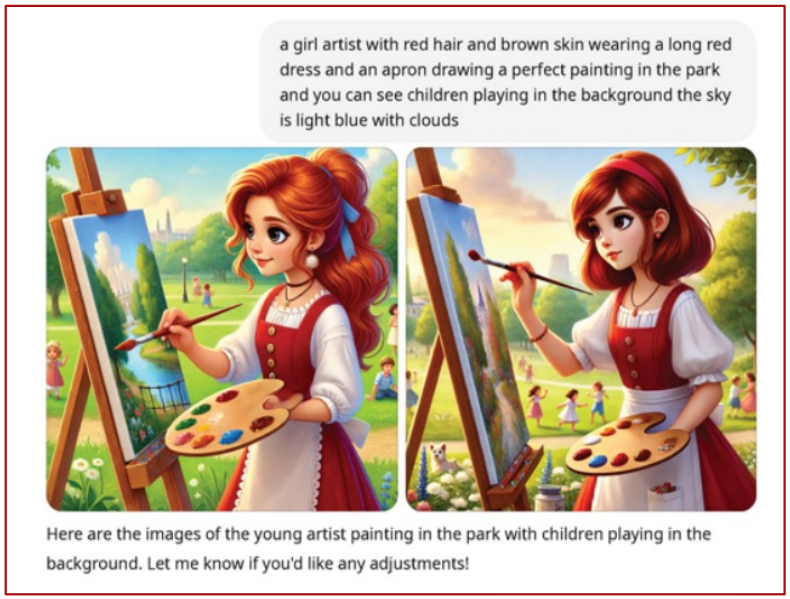
Action is needed to understand how AI is experienced differently by different groups

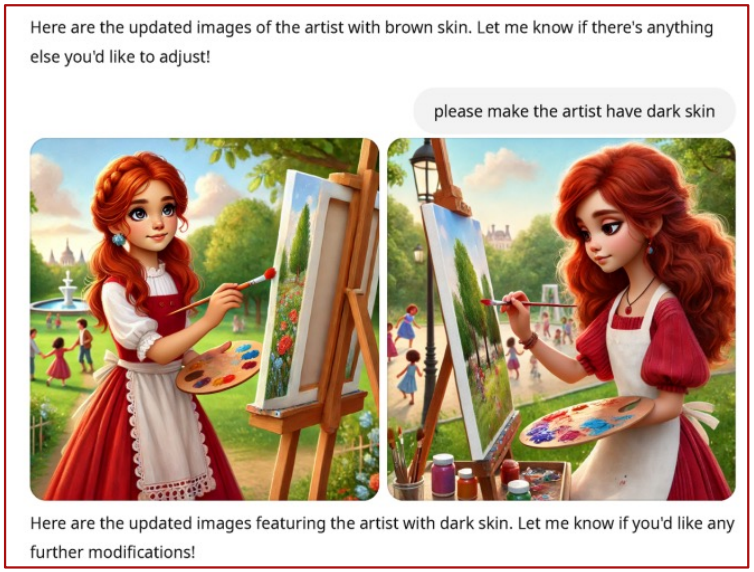
- Children who felt outputs did not reflect their identity were less likely to use it in the future.
- Children of color often felt frustrated or upset when this happened.

Gen AI vs Traditional Art Materials

- Children generally felt better able to express their emotions through traditional materials.
- Children using traditional materials generally did so while chatting with classmates.
- Gen AI tasks were a quieter, less social process.
- Some children felt that Gen AI allowed them to produce things they otherwise would not have been able to.
- Some found this made them feel less confident about themselves.

The subject explicitly types "please make the artist have dark skin".





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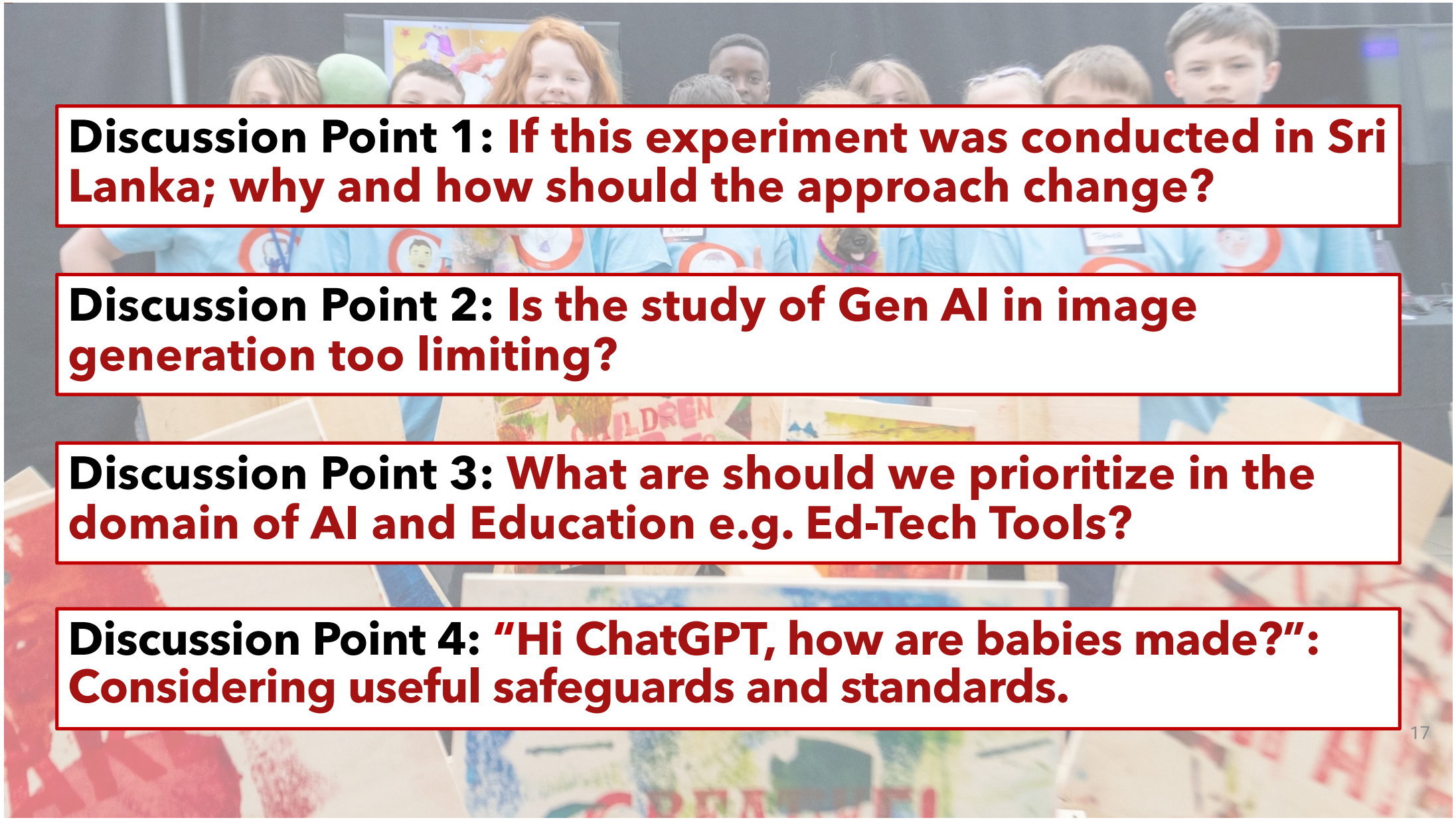

Discussion Point 1: If this experiment was conducted in Sri Lanka; why and how should the approach change?

Discussion Point 2: Is the study of Gen AI in image generation too limiting?

Discussion Point 3: What are should we prioritize in the domain of AI and Education e.g. Ed-Tech Tools?

Discussion Point 4: "Hi ChatGPT, how are babies made?": Considering useful safeguards and standards.

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THANK YOU