ISLS'22 Workshop: AI and Educational Policy

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Abstract: Amidst a constantly evolving landscape of policies surrounding artificial intelligence (AI), learning scientists have an important role to play in ensuring that AI is appropriately developed for creating equitable and desirable educational futures. This pre-conference workshop on AI and Education Policy brings Learning Scientists into a global policy discussion and encourages participants to develop personal plans of action for policy involvement. Results from this workshop include building capacity for policy work, compiling global policy takeaways, and other outcomes as defined by participants' interest.

Workshop Theme and Goals

This workshop centers global discussions around artificial intelligence (AI) and education policy. Our objective is to engage and prepare learning scientists as participants in future national, regional and international discussions about AI and the future of learning. We see learning scientists as necessary to these discussions because of their strengths in understanding the details of learning processes. The issues at hand are too important and challenging to leave only to those who are currently experts in AI or policy. Thus, this workshop is intended for all ISLS attendees, including faculty, postdoctoral fellows, graduate students, educators, policy makers, and any other interested parties.

The workshop's overarching goal is to set aside time to learn about a complex set of social and political issues and consider how workshop participants can become more actively involved. Our goals include:

- Learning about new waves of AI in learning sciences, considering both opportunities and risks.
- Learning what different nations, regions and international organizations are already doing regarding policy for AI in education
- Discussing how learning scientists can become productively involved
- Developing an initial personal plan for action

The workshop scope is further defined based on participant interests as indicated in their application to participate. For example, the focus can be restricted to AI in the learning sciences; to teaching students about AI or how AI is used by teachers; to issues such as data privacy, user agency; or to frameworks such as responsible AI, human-centered AI, ethical AI, etc. Our overall scoping goal is to refine the focus of the workshop based on participant interests so that the workshop is active and leads to creating a personal plan of action

Theoretical background

Interest and investment in AI for education is accelerating and with it, concerns about the issues that will arise when AI is widely implemented in educational technologies, such as bias, fairness, data privacy, and data security (Roschelle, Lester & Fusco, 2020). Amidst a constantly evolving landscape of policies surrounding AI, learning scientists have an important role to play in ensuring that AI is not only safe but also appropriate for creating equitable and desirable educational futures.

UNESCO's Guide to Artificial Intelligence in Education emphasizes that public policies will likely not be able to cope with the pace of AI innovation and calls for more participation from public institutions and researchers, like those in the ISLS community, to address issues of ethics, sustainability, and equity of using AI in education (UNESCO, n.d.). It outlines key policy challenges, two of which stand out as pertinent to the learning sciences. For one, AI for education must be inclusive and equitable both in access and development: access to AI education should not be determined by socio-economic status, should not be limited by the availability of culturally appropriate tools, and should work to assess AI tools for bias against specific groups. Second, teachers must be prepared for AI-powered education and AI should be created in a way that meets educational needs. Learning scientists are especially well suited to inform educational policies in several ways: working with

policymakers to integrate findings from research in real-life learning environments, considering the learning outcomes of large-scale initiatives to improve policy and funding priorities, and informing funding related to research-practice partnerships (McKenney, 2018). The goals of this workshop are to engage learning scientists with existing policies related to AI and Education and facilitate their development of individual plans for action.

As an international conference, ISLS provides an ideal venue to build on the waves of AI policies in different regions of the world by shifting the focus towards what is most useful for education and learning. In an ecosystem of rapid AI innovation, government and non-government organizations around the world are beginning to establish policies and guidelines to support safer implementation of AI in education. Japan's minister of education is preparing for the next wave of educational technology by considering what needs technology can and cannot address, suggesting that curriculums must focus on human skills, strengthening liberal arts education (Hamilton, 2020). Both China and Singapore have placed focus on encouraging leadership in AI innovation and personalized learning, with China's national plans for artificial intelligence (Department of International Cooperation, 2017; see also Roberts et al., 2019) and Singapore's National AI Strategy (Smart Nation Digital Government Office, 2019). The policy think tank of the Government of India has released a National AI strategy with a dual focus on AI's ability to transform India's economy and the need to develop AI for all in a safe and inclusive manner (NITI Aayog, 2018), and states in India have followed up by creating AI policy roadmaps (Tamil Nadu Safe & Ethical Artificial Intelligence Policy, 2020). Non-government organizations have begun to establish a policy think tank for AI in Africa as a whole (Research ICT Africa, 2021), while specific countries develop their own game-plan such as South Africa's new data privacy regulations (Kurth, 2020). Meanwhile, In the U.S., AI curriculum planning is beginning to occur on a state level through organizations like AI for K-12 while policies like COPPA and FERPA address privacy and security of student data nationally (*AI4K12*). E.U. Member countries are taking steps to implement AI and computing curricula in schools and as of April 2021 have released sweeping regulations on the use and development of AI (*New rules for artificial intelligence – questions and answers,* 2021).

On a global scale, some organizations are stitching together recommendations across regions; a new Ethical Framework for AI in Education (The Institute for Ethical AI in Education, 2021) sets international ethical standards, and the Beijing Consensus on Artificial Intelligence and Education (International Conference on Artificial Intelligence and Education, Planning Education in the AI Era: Lead the Leap, Beijing, 2019) lays out recommendations developed as part of a workshop in 2019's AIEd Conference. The organizers of this workshop have identified paths to policy involvement in a U.S. context (Friedman et al., 2021), such as creating guidelines, working with lawmakers, joining local organizations, or creating pledges, and would now like to call on a more international community to expand and compare these paths to policy involvement in regions around the world.

Expected outcomes

The outcomes for the ISLS society are a shared list of readings about these issues and a blog or additional form of a write up about the process and outcomes of this workshop. In addition, individual participants emerge with better ideas for how they could be involved in these important issues in their region of the world. Other outcomes are defined by participants of the workshop, for example modifying a set of global AI and education policy recommendations, analyzing individual plans of action for commonality, and more.

About the Organizers

The organizers of this workshop come from a diverse set of scholarly backgrounds spanning computer science and the learning sciences, but all have been working together for over a year under the auspices of the Center for Integrative Research on Computer and Learning Sciences (CIRCLS), a center that connects learning sciences projects in the United States.

Within CIRCLS, Roschelle and Fusco have organized and facilitated many national and international workshops and conferences for over a decade. Walker and Friedman have been collaborators in CIRCLS for the past year and recently organized a highly successful working group on AI and Education Policy (https://circls.org/ai-and-education-policy). Walker also previously organized workshops for the IAIED society. Dragnić-Cindrić, a postdoctoral researcher with CIRCLS, has been facilitating our emerging scholars working group. Chang is a postdoc with both CIRCLS and the NSF Institute of Student-AI Teaming (iSAT) and has been organizing youth-oriented workshops about AI in education. Pakhira, a research manager with both CIRCLS and AI Institute for Engaged Learning has created K-12 Informal Learning AI activities and resources and participated in the CIRCLS AI and Education Policy working group. The team recently co-facilitated the 350-attendee CIRCLS'21 convening (which was US-centric) and now wish to expand their engagement of scholars around the issues of AI and Education to the international scholarly audience afforded by ISLS, as the issues at stake transcend nationality.

References

AI4K12. (n.d.). Retrieved April 5, 2022, from https://ai4k12.org/

Department of International Cooperation, Ministry of Science and Technology (MOST), P.R.China. (2017, September 15). Next generation artificial intelligence development plan issued by State Council. China Science and Technology Newsletter.
https://www.mfa.gov.cn/ce/cefi//eng/kxjs/P020171025789108009001.pdf

European Union. (2021, April 26). *New rules for artificial intelligence – questions and answers*. European Commission. Retrieved April 5, 2022, from
https://ec.europa.eu/commission/presscorner/api/files/document/print/en/qanda_21_1683/QANDA_21_ 1683_EN.pdf

Friedman, L., Black, N. B., Walker, E., & Roschelle , J. (2021, November 8). *Safe ai in education needs you*. ACM. Retrieved April 2, 2022, from https://cacm.acm.org/blogs/blog-cacm/256657-safe-ai-in-education-needs-you/fulltext

Hamilton, K. (2020, March 1). The future of education: Preparing for society 5.0. Medium.
https://medium.com/@kathleenhamilton/the-future-of-education-preparing-for-society-5-0-a9d81ad64d9f

Kurth, H. A. (2020, June 29). South Africa's Protection of Personal Information Act, 2013, Goes into Effect July 1. Retrieved April 5, 2022, from https://www.natlawreview.com/article/south-africa-s-protection-personal-information-act-2013-goes-effect-july-1.

McKenney, S. (2018). How can the learning sciences (better) impact policy and practice? *Journal of the Learning Sciences*.

NITI Aayog. (2018). National Strategy for Artificial Intelligence #AIForAll. https://indiaai.gov.in/research-reports/national-strategy-for-artificial-intelligence

Research ICT Africa. (2021, January 29). *Ria launches new AI Policy Think Tank for Africa*. Research ICT Africa. Retrieved April 5, 2022, from https://researchictafrica.net/2021/01/29/ria-launches-ai-policy-research-centre/

Roberts, H., Cowls, J., Morley, J., Taddeo, M., Wang, V., & Floridi, L. (2019). The Chinese approach to artificial intelligence: An analysis of policy and regulation. *Available at SSRN 3469783*.

Roschelle, J., Lester, J. & Fusco, J. (Eds.) (2020). AI and the future of learning: Expert panel report [Report]. Digital Promise. https://circls.org/reports/ai-report

Smart Nation Digital Government Office. (2019). National AI Strategy.
https://www.smartnation.gov.sg/files/publications/national-ai-strategy.pdf

The Institute for Ethical AI in Education. University of Buckingham. (2021, March 30). Retrieved April 2, 2022, from https://www.buckingham.ac.uk/research-the-institute-for-ethical-ai-in-education/

UNESCO. (n.d.). *Artificial Intelligence in Education.* https://en.unesco.org/artificial-intelligence/education

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