SOLIDAR Foundation Position Paper

AI Implications for Education and Lifelong Learning

Introduction

Artificial intelligence (AI) is an ever-expanding field that is to impact the livelihood of all European citizens. This is more so the case as the new European Commission (EC) has been using the buzzword of AI whenever discussing Shaping Europe's Digital Future. However, there is a neglect towards the dangers of AI in these discussions and also an imbalance in how much focus is being offered to the commercial advantages of AI. The EC's White Paper on AI glosses over many concerns, focusing on the service provision power of AI and emboldening the EC to encourage a fast adoption of AI in public services. A quick expansion of AI for the purpose of being competitive does not account for the risks of it replicating discrimination and inequality on a larger scale. Moreover, the topic of education is neglected, as there is a very minor mention to the need to digitally upskill European citizens, but no mention about the impact that AI has on the education workforce and on the teaching and learning process[1].

The EC White Paper together with the current EC public consultation on the development of a European Regulatory Framework on AI reveal the commitment to legislate and incorporate a growing field in daily life. As a result, SOLIDAR Foundation finds it essential to make a case for a more nuance perspective over the implementation of AI in education and over how it will impact the civil society. Moreover, the digital planning of the EC emerged before the COVID-19 crisis revealed the inadequacies present in our societies. The underinvestment in public services and in digitalization across the EU begs the question of how will AI be implemented in an equal way and how will equal opportunities for skills development be put in place?

Conceptualisation and Underpinning the Terminology

To avoid any potential relativism on definitions and purposes of AI, the topic must be approached from a human rights perspective, a common starting point for most nations of the world and a perspective that places human beings at the centre of any conversation. Therefore, the 2018 Toronto Declaration, to which Amnesty International and Access Now have tremendously contributed, serves as an appropriate starting point when addressing AI. For any usage of AI, this declaration is encouraging public authorities and private actors to do a thorough impact assessment, evaluating the current discrimination, biases and violation of human rights present in their societies and assess how AI would exacerbate this[2]. The approach is to first mitigate human rights violations in general, and only then, when responsible over our societies, introduce AI to benefit our societies. For the moment, the EC's White Paper on AI seems to reveal a willingness of the European institutions to launch large-scale implementation of AI and only then considered how to mitigate risks, as they arise. This can come too late and it can set up a system which will be more difficult to dismantle than by trying from the beginning to appropriately integrate AI in our societies. Considering

[1] European Commission (2020). White Paper On Artificial Intelligence - A European approach to excellence and trust. Pp.5-6. Available at: https://ec.europa.eu/info/sites/info/files/commission-white-paper-artificial-intelligence-feb2020_en.pdf. Last accessed: 20 May 2020.
[2] 2018 Toronto Declaration, Pp.12-14. Available at: https://www.accessnow.org/cms/assets/uploads/2018/08/The-Toronto-Declaration_ENG_08-2018.pdf. Last accessed: 20 May 2020.

the objectives and recommendations of the Toronto Declaration, SOLIDAR Foundation firmly proposes the following steps to be taken into consideration when discussing AI:

- Maintain public supervision and monitoring over how AI is implemented, identifying discriminatory outcomes, preventing and mitigating discrimination risks
- Address AI national strategies to include a human rights perspective
- Ensure transparency over how AI is implemented, how data is collected, who is managing the AI solutions, how are the systems evaluated for discrimination

Education and digital tools – a case for equality of opportunities

The most recent SOLIDAR Foundation research, the [Citizenship and Lifelong Learning Monitor 2019](#), revealed that only 57% of EU citizens had basic digital skills. This also showed serious regional discrepancies in access to digital infrastructure and in digital skills attainment across the EU, revealing many EU citizens from lower socio-economic background being disproportionately affected by digital gaps[3]. Access to internet, access to electricity, basic ICT skills, access to ICT hardware are prerequisites for relevantly using AI tools. In this situation, it remains to be seen how AI systems can be streamlined in education systems where there is a lack of digital tools or of skilled teachers/educators to implement these tools in the classroom. Fewer than 40% of teachers in the EU have received courses on ICT inclusion in the classroom throughout their Initial Teacher Education (ITE)[4] which reveals the difficulties on their side in making use of AI technologies to their advantage, but also in having the awareness of the dangers of AI and of how to prepare learners to use it. Teachers' workload has been constantly increasing while the remuneration has not, further revealing the expectations placed on teachers without properly valuing their efforts. The usage of AI in education can bolster academic achievement, but, considering the above, a large number of learners and teachers will not benefit from such a system, further increasing inequality gaps in society. The current references to upskilling by the EC do not consider the difficulties in ensuring this learning process.

- As investment in education has not reached pre-crisis levels, there is a need to increase it in all Member States to contribute to the digital infrastructure in education and to properly supporting teachers before proceeding with any meaningful measures to include AI in education
- Teachers must receive sufficient and adequate training in ICT in the classroom during ITE and Continuous Professional Development (CPD) while their increased responsibilities must be better reflected by their remuneration
- Digitalisation must be treated as a public good, as our report reveals is done in the UK and Denmark[5], to ensure that all learners will have access to the benefits of AI and digitalisation

AI and Ethical Considerations

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[3] Lucie Susova, Elisa Gambardella and Andrei Frank (2020). Citizenship and Lifelong Learning Monitor 2019. Pp.7-8. Available at:
https://www.solidar.org/system/downloads/attachments/000/001/121/original/Citizenship_and_Lifelong_Learning_Monitor_2019_-_online.pdf?1587973552. Last accessed: 20 May 2020.
[4] Ibid. P.7
[5] Ibid.

The current Machine-Learning systems that make it possible for AI to be developed in education operate with incomplete and biased data, hence potentially causing issues of discrimination. Given that not all regions and educational systems have the capacity to collect the needed data on teaching and learning, the AI solutions developed will be based on data that is not necessarily reflecting all needs[6]. Unfair discrimination will occur if AI solutions with a dataset on Western European learners for example, are applied anywhere else in the world. Moreover, the use of AI in selecting or rejecting students is a very obscure process that does not explain choices made, again raising the issue of unethical discrimination[7]. The EC's White Paper on AI acknowledged the potential for AI-based discrimination, but it did so superficially, without accounting for what it actually entails, how it is occurring and how to prevent, therefore, weakening the EC's stance on mitigating the inadvertent effects of AI.

The way machines will continue learning and will operate in education depends very much on the data they collect and on the algorithm based on which they operate. As a result, machines risk promoting unethical ideals or going into a direction unacceptable for education. Who would be to blame in such a situation? Accountability is significantly diffused as programmers, teachers, the machine itself all share responsibilities and escape accountability[8].

The way the machines are learning depends on how they were coded. This is a humane component, as programmers can place their underlining biases within the machine. Considering that a vast majority of programmers working in AI are white and male, this already implies that the little diversity that goes into setting up AI systems runs the risk of causing the machine to operate based on flawed assumptions[9].

- There must be a greater effort in diverse recruitment to ensure that the diversity of programmers working on AI can better mitigate the possibility of embedding underlining biases in the machines
- Teachers and educators must cooperate together with the programmers in developing the AI solutions to ensure that each understand the role of the other and design the AI solutions in ways that benefit the education process
- More investment and training must go in how data from education is collected, to ensure that all can be equally serviced by AI
- The development of AI must be based on extensive research on biases, discrimination and human rights, to ensure that the machines are not trained to exacerbate inequalities in society

AI's Impact on the Civic Space

In an effort to ensure that the European businesses will be on competitive footing with Chinese or American businesses, the EC's White Paper on AI starts from the assumption that this is the central

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[6] UNESCO (2019). Artificial Intelligence in Education: Challenges and Opportunities for Sustainable Development. *Working Papers on Education Policy*. P.30. Available at: https://unesdoc.unesco.org/ark:/48223/pf0000366994. Last accessed: 20 May 2020.

[7] UNESCO (2019). Artificial Intelligence in Education: Challenges and Opportunities for Sustainable Development. P.33.

[8] Ibid. P.33.

[9] Kari Paul (2019). 'Disastrous' lack of diversity in AI industry perpetuates bias, study finds. Available at : https://www.theguardian.com/technology/2019/apr/16/artificial-intelligence-lack-diversity-new-york-university-study. Last accessed: 20 May 2020.

objective of AI. However, as some EU Member States' grow increasingly authoritarian, it is worth considering the impact of AI when in the hands of actors that are willing to use them to violate human rights. Civil society organisations (CSOs) will be more easily spied on and censored, with predictive AI being used to prevent gatherings before happening, to collect data on participants to protests, and to simply unearth more information about CSOs to assist in shrinking the civic space.

The Freedom House observed in 18 of the 65 countries it analysed in 2018 for digital authoritarianism that Chinese firms have been providing AI technology combined with facial recognition tools in order to identify who could be a 'public threat'[10]. The databases collected by such tools diminish the capacity of CSOs, of journalists and of citizens to escape the control of their government. Authoritarian governments are using this to curtail any possibility of association and protest. Examples such as this expand also within the EU, revealing that an improper understanding of AI can cause gross human rights violations and a reduction of the civic space. The welfare surveillance systems implemented in the Netherlands that relied on AI to identify who might be more inclined to commit welfare fraud has been struck down as a violation of human rights by the Dutch courts[11]. AI systems implemented in this way target the poor, violating the human rights of those most vulnerable and creating a system of surveillance that discriminates and increases social cohesion gaps. For this reason, increased attention must be paid on how these tools will be used.

- There must be more regulation imposed at national level on transparency over how the data is being used
- The AI systems must have incorporated in them functions to evaluate the respect of human rights in the way they are being used
- Multiple stakeholders have to be included in designing AI solutions and deciding on how to use this in society. This implies relying on minority groups and on CSOs working in various domains, to ensure a broad view of how the AI could be ethically used.

AI and the Propagation of Surveillance Capitalism

The concept of surveillance capitalism permeates more and more debates about technology and it accounts for the commodification of personal data for profit-making. It is a tactic that current tech giants use and it is a direct result of the asymmetric relation of power between users and private entities that rule the current configuration of the internet. Given these concerns, and the impact of scandals such as Cambridge Analytica on events and actions in the physical realm, it is worth considering how upgraded technology fits into this unregulated tech market. As reported so far, most AI initiatives in education have been spearheaded by private companies[12]. This seems to point in a direction in which AI, relying on vast amounts of data collection, will become a new tool that collects and commodifies data for these private organisations. Facebook, Netflix and other giants already employ AI when assessing what content to recommend to their users, in predicting the behavior of the users and anticipating their needs. Therefore,

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[10] Adrian Shahbaz (2018). Freedom on the Net 2018: The Rise of Digital Authoritarianism. *Freedom House*. Available at: https://freedomhouse.org/report/freedom-net/2018/rise-digital-authoritarianism. Last accessed: 20 May 2020.

[11] https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:RBDHA:2020:865

[12] UNESCO (2019). Artificial Intelligence in Education: Challenges and Opportunities for Sustainable Development. P.26

it can easily be seen how AI is being incorporated in surveillance capitalism and contributes to the current system in which people do not have control over their private data. Moreover, this system encourages monopolies and oligopolies, potentially limiting the amount of AI algorithms used in education to a few considered to be the 'best', standardising how education is provided in the world[13]. Given the creative and critical thinking process that education should be, instead of expanding quality learning opportunities based on tailored needs, this might be something that is not desired for our education systems as it would be akin to indoctrination and it wouldn't offer equal opportunities to quality education.

By allowing private interests to fully dictate the direction of AI developments, and encouraging them to do so in an effort to boost competitiveness via innovation, our societies are running the risk to remain more stuck in asymmetric relationships with the owners of the digital space. AI can prove to be beneficial, but it cannot operate with the same impunity that the current digital actors benefit from.

- The Internet must be provided as a public good, marking a starting point for democratizing the online world, and implicitly AI
- There is a need for better regulation on how tech giants are collecting and using the data of their users
- There must be a rethinking of how the digital space is organized, opening up the reforming of terms and conditions and the management of the online space to the users
- There must be more collaboration among private companies, public authorities and the third-sector in devising ways in which AI can be used without violating the privacy of European citizens

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[13] Ibid. P.33.