**ARTIFICIAL INTELLIGENCE IN EDUCATION: HUMAN RIGHTS-BASED USE AT THE SERVICE OF THE ADVANCEMENT OF THE RIGHT TO EDUCATION**

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| **Name of the country/entity submitting information** | **Digital Rights Foundation** |

**Question:** Please provide examples of **legislation, regulations** (including codes of conduct or institutional rules) or **policies** addressing or covering the use of AI in educational context, including **ethical or human rights concerns** around AI development and use, data privacy, bias mitigation, transparency, academic integrit**y**, plagiarism and proper attribution. Is due diligence mandated for the use of AI in educational context? Do students have clear guidance for citing AI usage?   
  
**Answer:** Pakistan revised its [Digital Policy](https://cfhr.com.pk/wp-content/uploads/2022/04/Algorithmic-Decision-Making-in-Pakistan.pdf) in 2018 to incorporate AI and other new technologies. The aim of the incorporation was to promote the use of AI in different aspects of society by providing opportunities to people to gain tech-literacy. As a result, the Pakistani government funded the construction of nine laboratories in multiple engineering and technology universities across the country to conduct research on AI, Robotics and the Internet of Things. The extent of the revised Digital Policy was however limited as it did not address ethical risks, harms or responsible use of AI. At university level, although policies regarding plagiarism checks and penalties are in place, there are no policies specifically targeting citing AI usage.

**Question:** Please provide examples of policies addressing **gaps and inequalities** in access to necessary conditions for the use of AI in teaching and learning, for instance,

aimed at reducing the digital divide between students with easy access to AI tools at home and those dependent on school resources. What measures are in place to ensure that trustworthy and pedagogically appropriate AI tools and resources are accessible to all students, regardless of their socio-economic background or geographical location?

**Answer:** City school group’s partnership with [Century](https://www.century.tech/news/how-ai-is-helping-hundreds-of-schools-in-pakistan/) has provided access to several students and teachers to e-learning and education even at home. However, it is important to note that such initiatives are not widely available or accessible, especially to children studying in public government schools. The Ministry of Information, Technology and Telecommunication (MOITT) has produced an [AI policy draft](https://moitt.gov.pk/SiteImage/Misc/files/National%20AI%20Policy%20Consultation%20Draft%20V1.pdf) that includes the use of AI for better access to learning such as e-learning platforms that can help make education accessible to students from different segments of the society. Through the policy draft, the government intends to bridge the accessibility gaps with private-public partnerships. For instance, the Center of Excellence in AI & Allied Technologies (CoE-AI) will be responsible for developing a program to provide personalized learning and assessment opportunities to students as an aid to teachers as they cannot create a personalized learning experience for every individual taking different learning needs and abilities into account. However, since the policy is still in the draft phase, there is room for more details on how the gap will be bridged such as an estimate of the timeline, implementational frameworks and addressing the data privacy issues in the use of AI in education.

**Question:** Please provide examples of state-supported **collaboration or partnership** between public educational institutions and corporations producing AI tools for education. Does the education system enforce contracts with specific software providers or is there a choice, at which level and is it informed by feedback from teachers, parents and students, as appropriate? How are data sovereignty and localization being addressed in the context of using international or foreign developed AI tools in education?   
  
**Answer:** In December 2023, the [Education Transformation Agreement](https://www.hec.gov.pk/english/news/news/Pages/HEC-Msoft.aspx#:~:text=The%20AI%20focused%20skilling%20initiative,Azure%20Cloud%2C%20and%20Cyber%20Security.) (ETA) was signed as a collaborative initiative by the Higher Education Commission (HEC) Pakistan and Microsoft Pakistan. The ETA aimed to train and provide access to the latest technology to higher education institutions among others. The [agreement](https://www.hec.gov.pk/english/news/news/Pages/HEC-Msoft.aspx#:~:text=The%20AI%20focused%20skilling%20initiative,Azure%20Cloud%2C%20and%20Cyber%20Security.) also included the AI skilling initiative offering training programs on AI, data science, etc. In addition, the city school group partnered with Century, an AI tool, that helps students, teachers and parents by improving access to education, e-learning, resource materials and AI-generated instant feedback through a personalized experience. Access to the platform has changed the course of education for thousands of students across Pakistan. The personalized experience helps both teachers and students develop a better understanding of problem areas that need more time and attention. However, data privacy and localization while using foreign-developed AI tools have not been publicly addressed by [the city school group](https://www.century.tech/news/how-ai-is-helping-hundreds-of-schools-in-pakistan/) or any other entity as of now.

**Question:** What are the main **challenges** encountered during the implementation of AI in education? Have there been any technical, ethical, financial or regulatory hurdles in deploying AI solutions in the educational context?

**Answer:** In Pakistan, the disproportionate development of technology infrastructure between rural areas and urban centers presents a challenge for AI in education to be implemented uniformly. Access to reliable internet and computing devices is limited in rural areas. Even in relatively bigger cities like Gilgit Baltistan, Quetta and Peshawar, schools [lack basic amenities](https://www.dawn.com/news/1214997) let alone [access to technology](https://tribune.com.pk/article/97200/the-state-of-education-technology-in-pakistani-schools) infrastructures. In such areas, it is challenging to implement AI-powered educational solutions due to a lack of infrastructure to support them effectively.

There have been efforts made to digitize educational records and assessments in Pakistan, however, the data availability and quality of that data remain another [significant challenge](https://www.thedayspring.com.pk/overcoming-challenges-the-urgent-need-for-digital-reforms-in-pakistans-education-system/). The data has been fragmented across various bureaucratic and institutional systems, which makes it difficult to aggregate and analyze those datasets effectively. Moreover, the inconsistencies and inaccuracies that this data represents may/will prompt inaccurate AI models to draw conclusions. Some urban schools maintain digital records, however many rural schools still rely on paper-based systems.

Data sovereignty is also one of the issues that has been left unchecked. The country does not have any data protection legislation as of now. The lack of a data-centric development lifecycle for technology development creates weak foundations for AI development in Pakistan. The very rare cases of AI models in Education also fail to consider the use of these technologies by the students (often minors) for reinforcement learning within the model. The ethical considerations have been overlooked within the development and use of AI.

**Question:** Are there any specific areas within education where you see significant potential for AI integration in the **future**?

**Answer:**

* Educational software can be adapted to student needs, making it more accessible and customized. AI algorithms can be used to perform in-depth assessments of individual students, assisting in the identification of learning gaps and the development of tailored learning plans that cater to their unique strengths, weaknesses, and learning styles.
* Existing educational apps such as [SIS](https://taleemghar.punjab.gov.pk) (Taleemghar), a project of the Government of Punjab, could be improved by further developing user interfaces and making them more easily accessible and user-friendly. Currently, the app is unusable, with no actual content present in its current state. It is important to note that the project was launched in 2020 and has since been sitting dormant.
* When integrating AI technology and tools into educational programs special attention should be given to ensure that its implementation is intersectional and inclusive. For instance, in Pakistan, these programs should have the option to cater to various languages in the region.
* Much of the potential for AI and tech advancement in Pakistan has been hindered by a lack of network and internet access throughout the region. Remote areas throughout the country still do not have access to proper internet connectivity, making it very difficult for students to access information online. This issue was quite prominent during the COVID-19 pandemic when schools had shut down and were forced to shift to remote learning. Many students had to miss out on months of school because they did not have internet access or devices that could support them joining online classrooms.
* Another factor that hinders the potential of AI integration in education is the general lack of funding in the education system. The [public expenditure](https://profit.pakistantoday.com.pk/2023/06/09/education-sector-receives-marginal-budget-boost-for-2023-24/) on education as a percentage of GDP is estimated at 1.7% for the fiscal range 2022-2023, the lowest in the region. There is a need for greater investment in the education sector so that programs like Taleemghar can be given proper attention, instead of being half-hearted projects that are abandoned halfway through.