**Request for inputs for the thematic report UN Special Rapporteur on the right to education**

 **‘Artificial intelligence (AI) in education and its human rights - based use at the service of the advancement of the right to education’**

| **NO.** | **KEY QUESTIONS AND INPUTS SOUGHT** | **INPUTS BY MALAYSIA** |
| --- | --- | --- |
|  | Please provide examples of **how AI tools and systems, including generative AI, are used in education process and related decision making** in your country, organization or educational institution, with examples of specific software where relevant. | AI's utilization in Malaysia higher education is becoming increasingly prevalent, however the usage still at the voluntary stage. The Malaysian Artificial Intelligence (AI) Roadmap Survey conducted in 2021 reported that AI adoption and development among academia is relatively low which is at 14%. AI tools offer innovative ways to enhance teaching and learning experiences. The common AI tools used in education process such as ChatGPT, GPTZero, Writefull X, GPT Detector, Pretzi, Gamma AI to automize the writing content, power point presentation and any other teaching and learning materials. Other tools such as Grammarly are used for proofreading and Scispace to auto summarize and Mendeley for filing’s purpose. The use of Virtual Reality (VR) and Augmented Reality (AR) applications, an interactive three-dimension (3D) experience create immersive learning experiences that engage students and enhance comprehension of complex concepts. These technologies can simulate real-world scenarios and environments, making learning more interactive and experiential. AR and VR are among the alternatives for remote learning for medical and dental students. Recognition of the importance of AI literacy, which involves understanding the basic concepts of AI, its applications, and implications for teachers and students has become a crucial agenda for Ministries of Education (MoE) in many regions. MoE Malaysia’s Digital Educational Learning Initiative Malaysia (DELIMa) platform currently offers 14 AI applications such as Gemini, ChatGPT, Bing AI and Bing Image Creator to facilitate teaching and learning. In addition, resources from Khan Academy: AI for Teachers, AI 101 for Teachers by Code.org and ISTE: AI for Teachers help teachers to enhance their AI literacy skills.  |
|  | Please provide **specific evidence of the known impact** of AI tools and systems on learners and teachers and on education systems in general, both positive and negative and explain how the impact is monitored. For example, how does the use of AI affect:  | According to a recent study regarding the effectiveness of AI in Teaching and Learning conducted by the National Council of Professors in 2023, they uncovered that the usage of AI able to increase the effectiveness of all ten domains in Teaching and Learning for both students and lecturers. They highlighted the dimensions of assessments, collaborative activities, tutorial, lab activities, instructional design, write lab modules, write programming codes, write authentic problems and learning new, lates and advance topics were positively increased in the context of Malaysia higher education.Ministry of Higher Education (MoHE) will establish a Malaysia Artificial Intelligence Consortium (MAIC) which involves higher education institutions, industry and government agencies to plan, execute and monitor AI agenda in higher education sectors.Governments and regulatory bodies are increasingly recognising the importance of digital accessibility. MoE Malaysia’s Digital Education Policy (DEP) is a manifestation of the Ministry’s efforts to make digital learning accessible to all students. The DEP aims to create a digitally fluent generation that is competitive by enhancing the knowledge, skills, and values of students, educators, and educational leaders, providing quality infrastructure, infostructure, and content as well as actively involving strategic partners in an integrated and comprehensive manner. The DEP outlines four objectives, six thrusts, 18 strategies, and 41 initiatives that set out the goals for achieving transformation in digital education. |
|  | * 1. persons with special learning needs, learners with different linguistic and cultural backgrounds, women and girls;
 | AI technologies help make learning materials more accessible to students with disabilities by providing features such as text-to-speech, speech recognition, and alternative formats for content presentation. |
|  | * 1. access to education of populations marginalized or underserved due to ethnicity, socio-economic status, displacement and other factors;
 | NIL |
|  | * 1. human interaction between teachers and students;
 | NIL |
|  | * 1. students’ and teachers’ human rights, privacy, safety, engagement, agency and critical thinking;
 | NIL |
|  | * 1. perpetuation of stereotypes and inequalities;
 | NIL |
|  | * 1. the type of information or disinformation that learners and educators are exposed to;
 | NIL |
|  | * 1. assessment of learning;
 | NIL |
|  | * 1. education management.
 | NIL |
|  | 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 integrity, 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? | Higher education digital education policy which is Shift 9: Globalised Online Learning in the Malaysia Education Blueprint 2015-2025 (Higher Education) have focused on planning aspects to make online learning that leverages technology advancement such as AI becomes important component in higher education. This policy intends to create sufficient digital infrastructure to strengthen the capacity of the academic community in improving the delivery of online teaching and learning. This policy focuses on the conducive digital learning ecosystem that subsequently benefitted the higher education sector over technological revolution through expanding access, improving the quality of content, teaching and learning, reducing delivery costs and offering Malaysian expertise to the global community.Governments and regulatory bodies are increasingly recognising the importance of digital accessibility. MoE Malaysia’s Digital Education Policy (DEP) is a manifestation of the Ministry’s efforts to make digital learning accessible to all students including those with special needs. The DEP aims to create a digitally fluent generation that is competitive by enhancing the knowledge, skills, and values of students, educators, and educational leaders, providing quality infrastructure, infostructure, and content as well as actively involving strategic partners in an integrated and comprehensive manner. The DEP outlines four objectives, six thrusts, 18 strategies, and 41 initiatives that set out the goals for achieving transformation in digital education. The Special Education Division of the MoE Malaysia acts as a DEP Thrust Member responsible to facilitate digital education transformations for students with disabilities.The DEP was approved by the Government on 26 May 2023 and is currently in the implementation period. All six thrusts in DEP are implementing digital literacy programs aimed to improve teaching and learning and enhance digital skills amongst teachers and students. These programs often cover basic computer proficiency, online safety, and developing or utilising digital resources. |
|  | Please provide examples of **participation** of teachers, parents, students or communities in the development of nationwide or internal regulations addressing the use of AI in education. What has been the feedback from teachers, students and parents? Are there mechanisms in place to solicit such feedback? | NIL |
|  | How does the education system support management staff, teachers and students in understanding how to use AI and how AI works? Please provide examples and /or texts of curricula that address both the technological and **human dimensions of AI competency** (both how it works (the techniques and the technologies) and what its impact is on people (on human cognition, privacy, agency). | NIL |
|  | Please provide examples of existing **professional development** programmes for teachers to use AI technologies. What training and support are provided to educators to effectively utilize AI tools in their daily work?  | Currently, there are two main centres of excellence for AI namely Centre for AI & Robotics UTM, CAIRO and Centre for AI Technology (CAIT), UKM which focus on the R&D. MDEC are the prominent institution that provide trainings and capacity building for the academicians under MD Workforce Training Programme.DELIMa also provides a variety of AI applications and tools such as Gemini, ChatGPT, Bing, Conker, Perplexity and Claude that can be utilised to assist teachers in creating educational content. Apart from that, tools such as Content Creation Assistance, Automated Grading and Feedback, Personalised Learning Platforms and Professional Development, and Self-Learning can be optimised to facilitate teachers in enhancing their professional practice. To date, besides participation from Google, MoE has also collaborated with other large information technology companies (Tech Giants) including Apple and Microsoft to provide access to teachers’ digital upskilling programmes. Digital competency programmes such as Google Certified Educator (GCE) Level 1 and Level 2, Apple Teacher Journey, and Microsoft Innovative Educator Expert are among the initiatives tailored for the collaboration between MoE Malaysia and the Tech Giants. In addition, among the ongoing collaborative programmes for students are Microsoft Funtastic School Break Programme, Digital Skills Application Programme by Google, Apple School Holiday Programme and competitions such as iOS Ideation, and Imagine Cup Junior (A Challenge to Understand AI Better). |
|  | 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? | In relation to policy to address the gaps and inequalities, Malaysia Education Blueprint 2015-2025 (Higher Education) set out five aspirations which covers access, quality, equity, unity, and efficiency. To effectively assess equity in the system, the Ministry aims to ensure that all Malaysians can fulfil their potential regardless of background. For example, the Ministry is committed to improving the enrolment rate and completion rate of students regardless of their socio-economic background or geographical location.The Malaysian Government has taken several steps to promote inclusivity in higher education, including:1. Increasing access to higher education for underrepresented groups through a special application lane for the admission of low-income students (B40) and students with disabilities to public universities (IPTA) and public vocational training institutions (ILKA);
2. Providing financial assistance and scholarships to help students overcome financial barriers to higher education. The government provides financial support through scholarships and grants to students from low-income families to pursue higher education. Examples are the First Child Student Development Programme or known as “SULUNG” and TVET Scholarship Programme or known as “Dermasiswa TVET”. For example, the success of SULUNG hinges on the ability of these students to have good careers and lift their families out of poverty. It is hoped that the SULUNG students will be independent after graduation and break the cycle of poverty. Ministry also hopes that their success will motivate their other family members and also the local community to strive for success.
3. Implementing policies and practices that promote diversity and inclusion and offering support services and resources to help students succeed academically, such as tutoring, mentoring, and counselling. For example, the inclusive Open Educational Resources (iOER) has been produced as a national policy statement to provide direction in the design, development and use of iOER. It drives to increase access and support quality T&L in Malaysia’s higher education under a creative commons license which involves content, activities and resources that fit and can be adapted to everyone’s unique needs, with no or minimal barriers.
4. MoHE has introduces Bantuan Perantisiswa to assist students from B40 family to receive their own tablet devices and broadband. In 2023, more than three hundred thousand students have been benefited from this programme.
5. Life Long Learning (LLL) policy also provide avenue to widen the access to higher education to all level of students regardless of their economic background, digital competencies and previous education achievements. Under Shift 3: Nation of Lifelong Learners in Malaysia Education Blueprint 20215-2025 (Higher Education), Ministry of Higher Education emphasises the importance of LLL for the purpose of obtaining academic of skills qualifications through distance learning, e-learning and workplace learning. Participants enrolled in LLL through face to face and digital platforms such as Malaysia MOOCs that can be browsed via https://www.openlearning.com/malaysiamoocs.
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|  | 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. | MoE Malaysia has established numerous partnerships and collaborations with education stakeholders to foster adaptability and innovation, as well as expedite the culture of digital technology integration in teaching and learning. Among others, the Ministry has collaborated with Google to establish a digital learning platform named DELIMa, or Digital Educational Learning Initiative Malaysia since July 2019. To date, besides participation from Google, the Ministry has also collaborated with other large information technology companies (Tech Giants) including Apple and Microsoft to provide access to teachers’ digital upskilling programmes. |
|  | 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? | Main challenges for implementation of AI in education: 1. **Shortage of AI Talent**

The pool of fresh AI Talents in Malaysia can be measured primarily by the number of computer science graduates and electrical engineering graduates. Since engineering and data science are the foundation of AI, these talents possess the basics for AI and are suitable for further upskilling and specialization in the area of AI. The nationwide AI-RMAP 2021 survey shows that AI Talents in Malaysia are mainly sourced by upskilling current employees, industry-university partnership, and advertisements.1. **Low rate of Research, Development, Commercialisation, and Innovation (RDCI) initiative**

RDCI plays a crucial role in increasing economic complexity and high-skilled talent development. This seamless connection between research, commercialisation and innovation processes promotes the introduction of new products and services that drive job creation and economic expansion. However, Malaysia faces challenges in achieving high value-added manufacturing due to its relatively low innovation performance. The RDCI ecosystem is a network of organisations and individuals that work together to promote research, development, commercialisation and innovation. The ecosystem includes universities, research institutes, businesses, Government Agencies and financial institutions.1. **Infrastructure and Access**

Limited access to technology and reliable internet connectivity in some areas of Malaysia can hinder the effective implementation of AI in education. Ensuring equitable access to AI tools and resources for students and educators across urban and rural areas is essential to prevent furthering the digital divide.1. **Resource Allocation and Funding**

Adequate funding and resources are necessary to invest in AI technologies, infrastructure upgrades, training programs for educators, and ongoing support for implementation. Limited financial resources or competing priorities may pose challenges to scaling up AI initiatives in education.1. **Skills Gap and Training**

Many educators may lack the necessary skills and training to effectively integrate AI into teaching practices. Providing comprehensive training and professional development opportunities for teachers and educational staff is crucial to build capacity and confidence in using AI tools and methodologies.1. **Data Privacy and Security**

AI applications in education often involve the collection and analysis of sensitive student data. Ensuring compliance with data protection regulations, maintaining data privacy and security standards, and implementing robust cybersecurity measures are essential to protect student privacy and prevent data breaches.1. **Ethical and Bias Concerns**

AI algorithms may perpetuate biases or discriminatory practices if not properly designed or monitored. Ensuring fairness, transparency, and accountability in AI systems used in education is essential to mitigate risks of bias and discrimination and promote ethical AI practices.1. **Cultural and Linguistic Diversity**

Malaysia is culturally and linguistically diverse, with multiple ethnicities and languages spoken across the country. AI technologies should be sensitive to cultural differences and support multilingual education to accommodate diverse learning needs and preferences.Thus, a coordinated effort involving government agencies, educational institutions, industry partners, and other stakeholders is crucial to create an enabling environment for the successful implementation of AI in education in Malaysia. |
|  | Are there any specific areas within education where you see significant potential for AI integration in the **future**? | Human centric AI is important for a country like Malaysia, where various distinct cultural, social, and economic variables come into play. Malaysia, a multi-ethnic and multi-cultural nation with a diversified population, confronts unique problems and opportunities in embracing AI technologies while ensuring they meet the requirements and values of its citizens. Among the aspects involved are: 1. **Inclusive Development**

Human centric AI efforts in Malaysia should prioritise inclusive development to guarantee that the advantages of AI reach all segments of society, particularly marginalised people and rural areas. This could include investing in infrastructure, digital literacy programmes (e.g. AI untuk Rakyat), and affordable technology to help bridge the digital divide and promote digital inclusion.1. **Ethical Governance**

Malaysia has established ethical principles and is building legal frameworks for AI development and deployment in accordance with its cultural values and societal norms. This could include data privacy, transparency, fairness, and accountability standards in AI systems, as well as oversight and redress mechanisms in the event of ethical violations.1. **Education and Talent Development**

Developing a trained talent capable of leveraging AI technology is critical to Malaysia's future competitiveness. Investing in AI education, training programmes, and research efforts can enable Malaysians to participate in the AI-powered economy while also encouraging innovation and entrepreneurship in AI-related disciplines. In accordance with this, the first Faculty of Artificial Intelligence has been assigned to Universiti Teknologi Malaysia to pioneer and pilot the effort.1. **AI Startups and Entrepreneurship**

Create a supporting ecosystem for AI startups and entrepreneurs by offering finance, mentorship, incubation space, and regulatory assistance. Encourage collaboration among startups, established businesses, and government agencies to expedite AI innovation and commercialization. |

**Prepared by:**

**The Government of Malaysia**