A PROPOSAL FOR THE EFFECTIVENESS AND ETHICAL USE OF ARTIFICIAL INTELLIGENCE IN CLASSROOM

Executive Summary

This report addresses the challenges of AI in the workforce, specifically in reintegrating the educational system. But due to covid-19 and the rise of ChatGPT, the number of users that are using ChatGPT, especially for teenagers and students, is increasing, and the specialists are afraid that overusing ChatGPT will hinder their growth, thinking, etc. Essentially, we will launch AI classes in order to educate the public about AI so they can learn how to protect their own competitive power and how to handle the future. We are also going to change the educational system and introduce AI early in their primary and secondary education. Introduce them to AI at an early stage so that they can familiarise themselves with the tool and learn how to fully utilise it as well.

Background

The world is fast changing due to artificial intelligence (AI), and Malaysia is no exception. AI has the ability to offer its users a wide range of advantages, including higher productivity and easier access to information in the real world. However, AI also comes with a lot of hazards and impacts for its users in every area, particularly in education, where a country's future depends on its youthful talent. Therefore, the Malaysian government should foster a good atmosphere in the education sector that supports the growth and development of AI while also reducing the hazards that AI poses to its youth.

Problem Statement

Malaysian students at all levels of education—college, primary, and secondary—rely extensively on AI to breeze through their coursework, delegating to it the responsibility of handling their online quizzes and homework (Kaur, 2021). The fact that you would employ Chat GPT in your assessment is a well-kept secret among the pupils. This has damaged the student's critical thinking to the point where it restricts their capacity for sound judgement (Duan, 2019).

The drawback of AI chatbots is that their responses are only surface level and occasionally inconsistent with what is available on the internet due to how the Language Model itself is produced. Nowadays, students always turn to prompted chat if faced with difficult inquiries. Individually, students are merely using a cheat code for their education instead of actually learning anything.

This tendency prevents a generation from developing deep level knowledge in their respective fields and trains them to solely rely on surface level information. This is not an issue in corporate settings, where employers value quick and effective responses and favour employees with superior AI chatbot skills (Veglis, 2019). This, however, would backfire in a

professional context where your job would affect other individuals because these cursory explanations wouldn't be adequate. An aviation engineer who has cheated throughout their education would not be able to design the plane, and it might even crash. Domain specialists would become less prevalent on a national level in favour of an all-knowing generalist.

As a result, the nation would lose out on some professionals, and its exports would be less competitive with those of other nations. It would have an impact on the national talent pool. So nobody knows how to construct Chat GPT while everyone is dependent on it.

Proposed Solution

As more people start incorporating AI chat bots such as Chat Gpt and Google BardAI into their day to day lives, the skill level for using these AI technologies will definitely be raised. Hence, uneducated and un-knowledgeable use of AI would only harm the user instead of empowering them with this tool. Hence, we should start early and educate our youngsters on its use.

As such, our proposed solution would be to organise an AI Class Programme. This programme has two purposes; first, to educate Malaysia's youth on the Ethical use of AI to help empower them in their educational journey. According to the Merlin Project, there is growing evidence that chatbots are playing an important role in education and can provide the pedagogical support needed for asynchronous online learning (Neo, 2022). The use of AI would help personalise their education and tailor it to each individual student's curiosity. The second would be to teach effective use of emerging technology in AI. Following in the footsteps of the European Union, there needs to be consideration given to incorporating emerging technology in the Malaysian education system (*Digital Education Action Plan (2021-2027)*, n.d.).

For the ethical use of AI. Through a variety of lesson plans and practical exercises, teachers are aided in helping students acquire the technical jargon of AI systems as well as the ethical and societal consequences of AI. This is what ethical usage of AI in education would involve. The curriculum contains a variety of lessons connected to learning goals. One of the key educational objectives is to familiarise students with the fundamentals of artificial intelligence (AI) through algorithms, datasets, and supervised machine-learning systems, all while highlighting the issue of algorithmic bias (Akgun & Greenhow, 2021).

Emerging technologies are predicted to reach a productivity plateau in 10 to 15 years, giving them ten years to mature before making a significant dent in the market (*Digital SkillUp - What Are Emerging Technologies and Why Are They Relevant?*, 2021). As such, educators need to realise that AI is not going away and must embrace it. In the programme, students will be taught how to ask the right questions to AI chatbots, or what is known as prompt engineering. Students will also be taught how to *use generative AI tools to spark their imagination.*

The AI class programme would be a collaborative effort between the government and tech Industry players. The classroom will be open to primary, secondary, and tertiary school students, and the curriculum will be based on their level of education. A classroom would consist

of 25-30 students and would be facilitated by a professional from the industry who has exposure and experience in this emerging technology field. Graduates of the programmes would be given a certificate to signify their completion of the programme and have the option to volunteer tutoring their peers in the programme.

Implementation Plans

The policy will first be presented to the public through detailed policy report documentation, followed by a press conference that allows the media and public to ask questions for clarification. The idea of releasing a report documenting the policy implementation timeline, policy details in terms of rules and regulations, and violations punishment is to help the public have a better idea of how they should approach the issue of AI in education. The press conference is to clear up any misunderstandings among the public. The report will be a copy of the original public policy, and it will hold true until any addition or modification is agreed upon by different stakeholders.

The syllabus of the programme would cover a lot of new emerging technologies, such as AI Chatbot prompt engineering and effective generative AI usage. Prompt engineering is how the user can give inputs and queries to elicit specific responses from the Large Language Model (LLM) AI models. These students would have to understand how LLM AI models work, the domain knowledge required to prompt, and get used to the feedback and iteration process to come out with the best answer. Through this programme, the students are also encouraged to experiment with AI and stay updated with the latest advancements in the field (Johnmaeda, 2023b). For generative AI usage, the students will be introduced to the most practical generative AI and its application, guided by the facilitator on how to utilise it for writing and art, and fine tune the model for desired output and ethical consideration. The syllabus will be revised throughout the years.

As this is a collaboration with various stakeholders, the government should look towards technology industry players and how they can play a part in the programme. Google, as a pioneer in AI and NLP technologies, offers a wealth of resources for the AI Class Programme. Microsoft, which is also at the forefront of research, should be reeled in to ensure an educated youth in the programme. Other industry players should also be notified and engaged for better support for the programme.

The timeline of implementation of the AI class will be divided into two sections; short term and long term. For the Short term plan, which will have a duration of 1 year, pilot testing of the programme will be carried out in a few primary, secondary, and public universities located near Selangor because it is close to the emerging tech giants for collaboration purposes. There, a trial run of the first iteration of the curriculum will be conducted, and continuous feedback will be gathered from the students according to their levels; -primary, secondary, and tertiary. These feedbacks will be gathered during the programme and post programme to track the effectiveness of the programme in educating them in AI ethics, empowerment through the effective use of AI, and the effectiveness of the facilitator from the industry. Depending on the success of the pilot phase, the programme will be gradually expanded to more schools and institutions.

For the long term plan, which will cover the duration of the programme after the first year. As the programme continues to gain momentum, it will be adopted on a national scale, expanding across other states with an added focus on digital inclusivity due to some states not having widespread connectivity. Ultimately, this programme will give birth to a generation of responsible AI users, critical thinkers who take advantage of AI, and Innovative problem solvers able to digest the world's information at their fingertips.

It is also required that the company that is actively running and maintaining AI be responsible for educating the public about how strong and useful the AI is. Sometimes AI could be misused, and the company that created, maintained, and refined it needs to elaborate on the reasons for the misuse and what the plans are for solving the problem.

Policy Evaluation

The use of artificial intelligence (AI) in the classroom is becoming increasingly popular. Artificial intelligence can be used to personalise learning, give adaptive evaluations, and provide virtual tutoring. However, there are certain ethical considerations regarding using AI in teaching. The effectiveness and ethical usage of AI in the classroom will be investigated in this policy evaluation. Students, teachers, administrators, parents, and other members of the community are major stakeholders in the use of AI in the classroom. The primary beneficiaries of AI-based educational programmes are students. While teachers must be instructed on how to effectively employ AI in the classroom.

Besides, administrators must create policies that ensure AI is used ethically. Lastly, parents must be aware of the possible risks and benefits of artificial intelligence in school. In order to improve learning outcomes, promote personalised learning, and increase overall classroom efficiency while preserving ethical standards and data protection, a policy proposal for the efficient and ethical use of AI in the classroom has been developed. Using data from trustworthy sources and research, this policy review will examine the potential effects and ethical concerns of integrating AI in educational settings.

Key Terms:

- **Effectiveness**: The degree to which AI-based educational programmes increase student learning results. (Chou et al. , 2022)
- **Ethical**: The degree to which AI-based educational programmes are fair, equitable, and considerate of student privacy. (Coghlan, Miller, & Paterson, 2020)

There is a growing body of studies on the usefulness of AI-based educational programmes that are available. Some studies have found AI to be helpful in enhancing student learning outcomes, while others have found mixed results (Wu & Yu, 2023). AI can also be used to personalise learning and provide adaptive assessment, according to some evidence. However, there has been less research on the ethical application of AI in education.

The research indicates that AI may be a useful tool for enhancing student learning results. The application of AI in education, however, could also raise ethical issues (Zeide, 2019). These worries consist of:

- **Bias**: AI algorithms may be biassed, which could result in prejudice towards particular student groups. For instance, compared to inquiries from students of other racial or gender identities, an AI-powered chatbot trained on a dataset of text from white male students may be more helpful and insightful in its responses.
- **Privacy**: As personal information about students may be gathered and used without their consent, the use of AI in education may give rise to privacy problems. For instance, a learning platform driven by AI that monitors students' progress might gather information on their study patterns, which might be used to identify students who are having trouble and then target them for interventions like advertising.
- **Accountability**: It is challenging to hold artificial intelligence (AI) responsible for its deeds, which may cause issues if AI is applied in a way that harms pupils. For instance, if an AI-

powered tutoring system is not correctly educated, it may provide inaccurate solutions for maths problems.

Effectiveness Evaluation

An analysis of both quantitative and qualitative data will be done to determine how effective the policy is. The evaluation will use data from a variety of sources, such as:

1. **Learning Outcomes**: Standardised test results, academic performance information, and student learning progress in AI-integrated classrooms compared to conventional settings are all examples of learning outcomes (Zhou, Lu, Huang, & Chen, 2021). Information from educational institutions that have adopted AI-based learning tools will be gathered.
2. **Student Engagement**: Surveys and classroom observations can be used to gauge student involvement levels. Comparative data from classrooms with AI integration and classrooms without AI will be gathered (Alam, 2022).
3. **Teacher Efficiency**: Analyse the effects of AI on automating administrative duties, grading, and offering insightful data to customise instructional methods. To get their opinions on time-saving techniques and resource use, teachers will be surveyed and interviewed (Cheng & Wang, 2021).
4. **Personalised Learning**: Analyse the extent to which platforms driven by AI offer individualised and flexible learning experiences for students with various learning preferences and skills (Ingkavara et al., 2022). Data on student performance and user interactions with AI systems will be analysed.

Ethical Evaluation

To make sure that the employment of AI in the classroom adheres to the following standards, an ethical assessment will be done.

1. **Data Privacy and Security**: Examine whether data privacy laws, such as the Personal Data Protection Act (PDPA) and applicable aspects of the Education Act, are being followed. A third-party AI provider's data sharing agreements, data storage procedures, and encryption safeguards will all be evaluated (Huang, 2023).
2. **Algorithmic Bias Mitigation**: Work together with Malaysian educational scholars and AI specialists to thoroughly examine AI algorithms for potential biases. The analyses' main goal will be to spot any unintentional bias against particular student groups, ensuring that everyone receives fair treatment and equitable access to opportunities. The results of research on prejudice mitigation strategies tailored to Malaysia's diverse student body would be taken into consideration.
3. **Transparency and Explainability**: Analyse the openness of the AI systems utilised in Malaysian classrooms. In order to ensure ethical and responsible AI application, the evaluation will determine how well AI judgements can be presented to students, instructors, and administrators (Amann et al., 2020).

The policy review will offer evidence-based perspectives on the efficiency and moral issues surrounding the use of AI in the classroom. The results will help guide policy choices, resulting in a more inclusive, efficient, and morally responsible use of AI technology to improve education and create favourable learning outcomes for all students (Walsh et al., 2019).

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Appendices

Advocacy coalition framework