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Students' presupposition towards incooperating AI (Artificial Intelligence) technology in virtual and face-to-face classes

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ABSTRACT

The introduction of Industry 4.0 in Malaysia has caused a significant change in the education industry. To further add, the covid-19 outbreak in 2020 made it possible for educators to enhance and incooperate their teaching methods to lead towards the Industry 4.0 revolution. With the lockdown happening all around the world to control the covid-19, all learning methods had to be switch to virtual learning. Although a pandemic was happening, students still had to continue their lives and go to class virtually. Educators was able to explore various methods of online learning to capture the interest of their students and encourage them that online learning as as fun as face-to-face learning. Other than that, Artificial Intelligence technology is the new revolution to the industry 4.0, and by incorporating the AI technology in virtual and face-to-face classes, it can play a significant role towards students' interest in taking up the class. With this, the main objective of this study is to identify and analyse students' presupposition towards the use of AI technology in virtual and face-to-face classes. The methods of this study is a qualitative method by using Fairclough's (1995) critical discourse analysis of analysing the student's presupposition. The understanding of the students peresupposition is important for educators to plan the the use of AI technology in virtual and face-to-face class as we move closer to the industry 4.0. It is hoped that the results show students have a positive presupposition towards the use of AI technology in classes.

Keywords:

Student, online learning, presupposition, artificial intelligence, face to face class

1. Introduction

Industry 4.0 has evolved over the years and have been incooperated into the education system. The production system enables to make intelligent decisions through a real-time communication device, in which is the revolution to the tech industry and education [1]. Industry 4.0 was introduced back in 2011 by digital technologies [2] that wanted to enhance and improve manufacturing performance. By using information technology and automation based on the internet, it had allowed many possibilities that humans and machines were able to exchange information and fata and create a different level of communication between the two [3][4][5]. As the world keeps on evolving, the Fifth Industrial Revolution (Industry 5.0) was then introduced that focused more on research and innovation to support the Industry 4.0. With this, it had encouraged AI (artificial technology) driven technologies to embrace the efficiency and flexibility of production in the industry 5.0 [6]. There are

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great challenges with the implementation of industry 4.0 [7][8], such as the changing of organisation structure, as we move to a more tech driven industry [9][10][11] and hiring more people with a digital technology background [9][10][11]. With this, it is important to implement more digital technology towards the younger generation as early as possible. In order to do this, the industry 4.0 technology driven product needs to be introduced in online and face to face classes.

A study reviewed on the use of artificial intelligence in education in 2022 [12] showed that, incorporating AI-driven software and application in classroom had to have its own taxonomy of artificial intelligence that associated with not only the learning of the students, but also the teaching methods and framework that could help teachers to self-reflect on their current level of skills towards AI-technology and how the teachers can further improve their capabilities, so that students will learn better using the technology. Holmes et al., [13] and Manyika et al., [14] further supported the above study and revealed that learning and using AI in teaching is apart of the pedagogical, ethical and competency development needed by teachers, as the education worlds will keep on evolving together with the industry 4.0. Hence, the need for educators alike to learn and starting implementing the AI technology in their classroom, be it physical or online. In order to do this, we would need to have better understanding from the main recipients of being taught AI in classroom, which is students. In understanding their presupposition towards the implementation of AI driven technology, it would educate all educators their perceived thoughts towards AI and their level of understanding towards AI-driven technology.

1.2 Research Question

Our research aims to study the students' presupposition towards incorporating AI-driven technology in classes. As well as using past articles to identify solutions. Hence, our main research question is:

“What are the students' presupposition towards AI-driven technology being used in classes”

1.3 Research Objectives

The goal of this research is to identify and analyse students' presupposition towards the use of AI-driven technology in classes.

2. Methodology

This study is a qualitative study using Fairclough [15] critical discourse analysis to identify the students' presupposition towards incorporating AI-driven technology in classroom. It is important to know the students' presupposition as they are the ones that will be taught using the AI-technology. Therefore, when educators know where the student stands in terms of knowledge about the AI technology, it will further help educators in preparing the suitable AI technology in class. A total of 30 students at the age of 18 – 23 years old were interviewed to get an in-depth understanding on their presupposition towards the use of AI-driven technology in classrooms.

3. Results and Discussion

The results showed that, most of the students were not aware of industry 4.0, as they are not exposed to such information and they do not search for the information. However, they are aware of the merge of hybrid and blended learning since the students had to start online classes because of the COVID-19 pandemic that hit the whole world and putting everyone on lockdown and forcing the most of the industries to start working and operating online, especially the education sector. By going online, the students were more exposed the digital technologies and softwares that were available to accommodate their online learning. Subject 1 and 4 had mentioned that, without the pandemic, they wouldn't have known the many websites and softwares that were available for students to use and help in their education. Subject 11 and 15 further agreed and stated that having online classes had opened their eyes to technology from a different perspective, rather than using it for social media only.

Other than that, majority of the students interviewed had mentioned that the only AI-driven technology that they can relate to are AI video games that are very well known amongst their age group as well as the introduction of talking robots that uses AI technology to move and talk. This shows the level of knowledge the students have towards AI-driven technology. Educators can use this information to further educate students about the different systems, applications and softwares that AI can offer so that students are aware even in their daily lives they are using AI-driven technology.

Besides that, 90% of the students would like to have AI-driven technology incorporated in the classroom, be it face to face or online. This is because, since their knowledge about AI is very limited, if the technology is used in class and are exposed freely towards the students, they are able to learn about the technology. However, the other 10% of the student worries that their internet connection or understanding about AI technology might interfere with the learning process when AI-driven technology is used in classrooms. Nevertheless, the students mentioned that if internet connectivity was increased during online classes and there were no further problems to them learning about AI, they would want to be exposed as it is the technology used in the modern world. What better to learn from the classroom itself?

4. Conclusion

Based on the results shown above, it is clear to say that students have a positive presupposition towards the use of AI-driven technology in classrooms, although they have some concerns. Students might not be aware of industry 4.0 and 5.0, so this is where the role of educators come in to educate the students about AI-driven technology as the students are the future to bring the industry further and more advanced. The implementation of AI based video games might be a good example to students as it is one of the examples that they can relate to, and from there, educators can further include other forms of AI-technology into the teaching process. It is hoped that further research can be done on the effectiveness of AI-driven technology in classrooms once it has been implemented, to measure the rate of effectiveness towards students learning outcomes.

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