

Research On The Current Status, Ethical Risks, And Development Guideline Of Artificial Intelligence In Education—A Case Study Of One Secondary School In Bangkok, Thailand

Shiyuqing Miao

Mahidol University, Thailand

Dr. Sovaritthon Chansaengsee

Mahidol University, Thailand

Abstract

In recent years, the quick change in AI tech is bringing new possibilities and chances to change the world's education system. Many countries have included the idea of AI and education integration into their educational development plan. Thailand is a large developing country in South-East Asia which made the digitalizing education in Thailand as its major goal since first introducing the "Thailand 4.0" plan in 2018, and promotes the adoption of modern teaching systems and tailored made learning environment for the primary and secondary students in order to improve the quality of education and develop basic skills. Taking a public middle school in the suburb of Bangkok as an example, it has started to pilot the use of AI technology in teaching since 2020, which includes applications like smart homework grading, multilingual AI tutors, and analyzing data on interactions between students and teachers in class. It is an example of the digital transformation of education at the local level in Thailand (Ministry of Education Thailand, 2021).

From existing research, it can be seen that the effect of AI application in education is affected by various factors. Smith & Johnson (2022) noted in their educational research in the Asia-Pacific area that teachers' adaptability to technology was strongly positively associated with effective smart tool use. Meanwhile, Lee et al. (2023) carried out a comparative study of different countries, and found that developing countries generally have structural issues such as uneven infrastructure and lack of digital literacy among teachers when promoting educational. In the ethical dimension, Williams(2023) found potential problems concerning the boundaries of data collection and the fairness of algorithms in smart education platforms through his empirical study. As far as cultural adaptation goes, Taylor & Brown (2024)'s newest study brings into focus the point that AI-based teachings having no integration of local culture does have an impact, it is clearly visible, upon students' learning method as well as the results that they are receiving as output.

Although there are some references that exist that provide an idea on how AI has been applied in Education, it is notable that they lack the in-depth research needed for the specific situation in Thailand. Firstly, most of the research is on macro analysis of policy, there is a lack of micro investigation on practical cases from grassroots schools. Second, the ethical discussions of AI application in education are mainly theoretical without empirical studies of specific issues such as data privacy and algorithmic bias. More importantly, there is no study that systematically explores how Thailand's cultural background and educational objectives can be combined with AI technology (Chen & Patel, 2024). By taking a middle school in Bangkok as a case study, this research attempts to fill the gap, to carry out a profound analysis on the current situation of AI in the school, to identify key problems, and to provide local development strategies for Thailand. It can not only help the case school to find improvement solutions, but also give practical references and theoretical ideas for the education digitalization in Thailand and other countries with the same background.

As a middle school in Thailand wants to improve teaching and learning results with the help of AI technology, a series of specific challenges have appeared which influence the real practical effect of using technology. Within the educational environment, teachers' skills on AI technology are very polarized, some young teachers can quickly get familiar with new tools and apply them creatively in the classroom, but most of the experienced teachers who used to rely on conventional teaching approaches, lack familiarity with new technologies and have no systematic training on how to use intelligent teaching platforms, so they always find some technical obstacles when applying intelligent teaching platforms. It restricts the crucial part that smart