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استخدام الذكاء الاصطناعي في التعليم في ماليزيا وفنلندا: دراسة تحليلية مقارنة

*The Use of Artificial Intelligence in Education in Malaysia and Finland: A Comparative Analytical Study**

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الملخص:

هدفت هذه الورقة إلى مقارنة دمج الذكاء الاصطناعي في التعليم في نظامين تعليميين مختلفين، الماليزي والفنلندي، واللذين ينحدران من ثقافتين مختلفتين. وتستكشف الورقة الوضع الراهن لتبني الذكاء الاصطناعي في أنظمتهما التعليمية، ونوع تقنيات الذكاء الاصطناعي المستخدمة، والمزايا والعيوب المتصورة. تعتمد هذه الدراسة على منهج بحث نوعي، حيث يتم تحليل البيانات الثانوية، بما في ذلك المقالات والأوراق البحثية والتقارير ودراسات الحالة، باستخدام التحليل الموضوعي. تركز الورقة على دور وفعالية حلول ومشاريع تكنولوجيا التعليم القائمة على الذكاء الاصطناعي داخل الأنظمة المدرسية، وتقيّم كيفية تأثير تقنيات الذكاء الاصطناعي على تحصيل الطلاب، والتدريس، والإدارة التعليمية. تُظهر النتائج أن كلا البلدين يدركان أهمية الذكاء الاصطناعي في التعلم، ولكن الاستراتيجيات المتبعة ليست هي نفسها بسبب السياق. تفتقر ماليزيا إلى بعض البنية التحتية، وتدريب المعلمين، والمساواة، والوصول، بينما تتمثل التحديات الرئيسية التي تواجه فنلندا في تحسين التعلم وتلبية احتياجات الطلاب من خلال نظام تعليمي رقمي متطور. بناءً على هذه الدراسة، نقدم بعض الاقتراحات لصانعي السياسات والمعلمين والباحثين لمساعدتهم على تطبيق الذكاء الاصطناعي في التعليم بشكل مناسب ودون تحيز. ولتعزيز المعرفة بتطبيقات الذكاء الاصطناعي، والقضايا الأخلاقية، وأفضل الممارسات، ينبغي دراسة اتجاهات البحث المستقبلية.

الكلمات المفتاحية: الذكاء الاصطناعي، أخلاقيات الذكاء الاصطناعي، الذكاء الاصطناعي في التربية، الذكاء الاصطناعي في المجال التعليمي، ضوابط الذكاء الاصطناعي، التعليم في ماليزيا، التعليم في فنلندا.

Abstract:

This paper aimed to compare the integration of Artificial Intelligence in education in two different educational systems, Malaysian and Finnish, which originate from two different cultures. It explores the current state of AI adoption in their educational systems, the kind of AI technologies being utilized, and the perceived advantages and disadvantages.

This study adopts a qualitative research method where secondary data, including articles, research papers, reports, and case studies, are analyzed with the use of thematic analysis. The paper focuses on the role and effectiveness of the AI EdTech solutions and projects within school systems and assesses how the AI technologies influence students' achievement, teaching, and educational management.

The results show that both countries understand the importance of AI in learning, but the strategies adopted are not the same because of the context. Malaysia lacks some of the infrastructure, teacher training, equity, and access, while Finland's main challenges are to improve learning and meet the needs of students with a well-developed and digital education system. Based on the study, here are some suggestions to policymakers, educators, and researchers to help them implement AI in education appropriately and without bias. To advance the knowledge of AI applications, ethical issues, and best practices, future research directions should be examined.

Keywords: Artificial Intelligence, Artificial Intelligence in Education, Education in Malaysia, Education in Finland

Chapter 1: Introduction

1.1. Overview of Artificial Intelligence (AI) in Education:

Artificial intelligence systems are transforming numerous sectors throughout the world, including educational processes. AI systems develop digital programs that can perform intellectual human activities, including learning, problem-solving, and making decisions (Khare et al., 2018). The educational sector needs to develop software tools that support teaching staff alongside student education and enhance the entire learning process.

Artificial Intelligence in education is defined as the employment and use of AI technologies and techniques to develop educational and training programs capable of interacting and engaging with learners. These programs closely simulate the teacher's abilities, behaviors, and responses in various teaching situations. thereby enhancing learners' competencies and enabling the achievement of educational objectives with high efficiency and speed (Al-Obaidani & Al-Shanfari, 2024: 235).

The implementation of AI within education systems does not involve substituting human teachers with robotic alternatives. Intelligent technology development under this approach assists educators by creating personalized learning plans and automation of administrative tasks while generating development insights for their students (Hashim et al., 2022). Computer programs demonstrate their capability to adapt learning styles for individual students through customized lesson delivery and feedback systems, which also include automatic grading functions.

Teaching benefits greatly from AI technologies. Through AI implementation, learners receive customized education experiences that optimize both their efficiency and their engagement. AI in educational institutions improves the performance of teachers. This because they dedicate their time to instructing students rather than doing admin work. AI

technology enhances educational opportunities by providing accessibility for disabled students as well as those students who stay in rural areas.

Teaching operations face challenges when integrating AI systems into educational practices. Data privacy and algorithmic bias, remain ethical problems that require immediate solutions, moreover, students must receive equitable access to AI tools (Hashim et al., 2022).

Educational artificial intelligence exists as a tool without seeking to replace teachers. The personal teacher-student bond remains essential at the core of every educational process.

This research examines the AI educational landscape of Malaysia and Finland by analyzing their divergent educational frameworks and societal norms during technology integration within educational systems.

1.2. Research Questions:

1. In what ways are AI EdTech tools and practices being integrated into Malaysian and Finnish institutions, and what are the differences in both countries' strategies?
2. What is the current state of AI EdTech in the Malaysian and Finnish education sectors, how are these tools and initiatives different in terms of their features and target audiences?
3. In what way does the analysis of different cases of AI usage in Malaysian and Finnish education provide insights into the effects of AI on students, teachers, and educational managers?
4. Based on the experiences and opinions of students, teachers, and policymakers, what are the perceived advantages as well as the disadvantages of using AI in education in the Malaysian and Finnish context, and how do the perceived advantages and disadvantages impact the development and adoption of AI in education?

5. How does ethical factors, data privacy, fairness, and transparency, impact the growth of AI in Malaysian and Finnish education and what measures are currently in place to solve these issues?

6. Based on the findings, what specific recommendations can be made for appropriate and successful AI integration into Malaysian and Finnish educational institutions, considering the unique contexts of each country?

1.3. Research Objectives:

1. Identify and analyze existing AI EdTech tools in Malaysian and Finnish educational institutions.

2. Review and analyze the cases of AI integration in learning contexts in both countries

3. Assess the effects of AI on the learning outcomes of students, classroom practices of teachers, and management in education.

4. Investigate the ethical impacts of AI in education, such as data privacy, algorithmic fairness, and transparency.

5. Examine the roles of the stakeholders in influencing the advancement and adoption of AI in education in both nations.

6. Create proposals for appropriate and successful AI integration into Malaysian and Finnish educational institutions.

1.4. Research Gaps:

While research on artificial intelligence in education is developing globally, a lot of gaps exist, especially in comparison studies between nations with different educational and cultural backgrounds. This study aims to address several of these gaps.

For instance, even though there are studies on AI in educational systems in different countries, there is a lack of research comparing Malaysia and Finland due to the differences in their education policies,

technological and educational facilities, and culture. This research helps to address this problem by employing a comparative perspective, which would reveal the similarities and the differences in their strategies toward AI adoption.

Moreover, although Amdan and Janiuce have literature on AI in universities and TVET institutions in Malaysia, (Amdan et al., 2024), there is a lack of qualitative analysis of the specific tools and initiatives in Malaysian and Finnish universities. This study fills this gap by focusing on the "what" and the "how" of AI EdTech in both countries.

Despite the potential benefits highlighted, AI integration in education has little empirical data regarding their effects on student achievement, teacher behavior, and management in schools. This research fills this gap by discussing several case studies of how AI is implemented in education to help illustrate how it can impact the process.

In existing literature, there is a lack of appreciation of how students, instructors, and other stakeholders impact AI advancement and adoption. According to Ahmad, Malaysians have to adopt a radical change to fulfill their needs (Ahmad et al., 2019). He does not, however, look at stakeholders in both countries This study will explore these perceptions towards AI and seek to fill the existing research knowledge gap regarding how stakeholders' feedback can enhance the adoption of AI.

Ugun and Mujiono's literature on ethics is a valuable contribution to AI in education but the focus is narrow and does not discuss specific contextualized ethical problems as much as it should. This research will focus on examining how issues of ethics like data privacy, fairness, and transparency are being dealt with In Malaysia and Finland since the two nations operate under different legal systems.

While many approaches to AI in education are discussed in the literature, many of them are conceptual and contain only limited suggestions

on how they might be implemented. This study seeks to fill this gap by providing country-specific and practical solutions to AI integration in Malaysian and Finnish universities.

Chapter 2: Literature Review

This chapter reviews prior research studies about educational artificial intelligence systems with a particular emphasis on Malaysian and Finnish implementations and outcomes. This section studies AI's educational concepts and surveys actual implementations, then assesses its main advantages and drawbacks along with ethical issues the technology produces during use. The review specifically notes the distinctive educational settings in Malaysia and Finland which researchers must take into consideration when evaluating AI impacts on their respective education systems.

Adaptive learning theories show that proper training adjustments for individual student requirements form the foundation of AI-based personalized learning platforms. Learning theories support active learning and knowledge production through AI systems that provide customized feedback together with adjustable learning challenges (Khare et al., 2018). The complexity of information currently presented to learners can be managed by artificial intelligence (AI) systems which results in reduced cognitive overload and enhanced learning efficiency.

Educational institutions across the globe implement Artificial Intelligence programs to enhance their operations. Learning platforms with AI technology evaluate student learning styles through algorithms to adapt content according to individual student progress. Educational software with AI features delivers customized support and feedback while behaving like an instructor. Through AI-based automated assessment tools, students receive assignment grades and feedback that reveals their areas of weakness. Additionally, administrative use of AI technology in educational

institutions can automate scheduling and enrolment tasks while teachers maintain their focus on instruction alongside student interactions (Kaur, 2021).

The education system of Malaysia experiences active transformation toward technological integration and digital literacy promotion. The Malaysian government prioritizes AI as a key element for national development in strategic education and national development plans. AI possesses the potential to resolve three key education problems covering teacher workload measurement alongside student active engagement and quality learning improvements in distant educational locations (Adıgüzel et al., 2023).

STEM education experiences increasing demand for learning platforms and AI-powered tools among students and teachers. Several obstacles exist, however, in AI deployment, According to Roslan, issues like insufficient infrastructure and the need to train teachers properly and guarantee fair technology use across varied sociocultural groups are some of the major concerns in the integration of AI in Malaysia (Roslan et al., 2024).

The Finnish education system stands as a globally acclaimed model because it bases its approach on student-led learning while granting teachers independence in their work practices and working toward universal educational opportunities. The educational sector in Finland remains active in its research of AI capabilities for classroom use (Neittaanmäki, et al., 2024). Research in Finnish educational settings explore how AI supports individualized learning through adaptive evaluation systems and enables support for students with special needs according to Mujiono (2023).

The implementation of AI tools in Finland places particular importance on both ethical compliance and maintaining educational values defined by Finnish principles (Porn et al., 2024). The well-developed digital framework

and professional educator development system in Finland create optimal conditions for incorporating AI into the educational sector. The educational journeys, however, show significant differences. The developing economic state of Malaysia combined with its varied population, presents difficulties regarding overall infrastructure development along with teacher skill enhancement and equal education opportunities across all areas.

In comparison, Finland maintains a successful education framework and strong infrastructure because it directs AI resources toward improving learning methods for meeting specific educational requirements. The distinct situations of each nation lead to differences in their AI implementation strategies despite shared recognition regarding AI's potential educational applications.

AI technology offers education several potential advantages. They can create personalized learning experiences by understanding individual learning patterns and providing customized instructional material and feedback. Students often exhibit better performance and show higher engagement levels through the implementation of AI-powered educational tools. Machine intelligence can boost teaching effectiveness by automating professional tasks while delivering analytical information about student development. Furthermore, the technology enables educators to provide expanded educational opportunities to students who need assistance due to disabilities and those who live in distant locations (Lampou, 2023).

However, AI in education also presents several challenges. Significant ethical challenges include protecting data privacy, addressing algorithmic biases, and ensuring AI tools do not exacerbate existing inequalities in educational outcomes. Technological accessibility for all people requires fundamental attention because it is crucial in preventing the growth of digital inequality between different groups. Teachers require sufficient training

programs together with ongoing support for the successful implementation of AI across their educational methods (Ferikoğlu, 2022).

AI development for educational purposes requires ethical assessments at every stage. Student data privacy remains a significant issue because AI systems routinely gather and process this information (Mutia et al., 2024). The rise of algorithmic bias intensifies pre-existing social disparities when educational AI tools operate without adequate attention to their development and implementation process. The process of decision-making by AI systems affecting students requires both transparency and full accountability systems.

Chapter 3: Methodology

Research Design and Approach:

3.1. Secondary Data Analysis:

A comparative secondary data analysis research design investigates artificial intelligence (AI) use in Malaysian and Finnish educational institutions within this study. The analysis of published articles, research papers, government and case studies construct a better understanding of AI applications in these nations.

Multiple elements led to the decision for secondary data analysis, some of them are: This study relies on the extensive body of scholarly articles and governmental reports that focus on artificial intelligence education in Malaysia and Finland. Moreover, the use of secondary research enables a direct comparison of educational perspectives between Malaysia and Finland through extensive analysis of both countries' trends in AI usage within their systems.

Finally, secondary resources lower expenses and save time spent on conducting surveys and interviews as primary data collection methods. Through this approach, researchers can conduct an intense study of

available knowledge. This shows that secondary data includes actual implementations of AI systems, which help researchers understand their practical usage.

The research uses thematic analysis for qualitative data interpretation to decode and analyze themes extracted from collected information. Additionally, a qualitative synthesis approach aims to deliver a detailed understanding of AI in education in both Malaysia and Finland. Existing surveys and reports containing Likert scale data and other quantitative information will be used when available. The qualitative assessment will gain additional depth by including stakeholder perception analysis.

3.2. Data Collection Process:

The data collection procedure included a systematic search and selection of scholarly articles, government documents, respectable research reports, and pertinent organizational materials that corresponded with the study's aims. Keyword searches in databases like Scopus, SpringerLink, IEEE Xplore, Google Scholar, and ERIC included "Artificial Intelligence in Education Malaysia", "AI in Malaysian schools", "AI in Finnish education", "adaptive learning Malaysia", "personalized learning Finland", "ethical issues AI education Malaysia", and "AI policy education Finland".

The inclusion criteria prioritized recent sources (2017–2025) that focused on the application of AI in Malaysian and Finnish education systems, notably in management, teaching, ethical considerations, and policy contexts. Priority was given to sources from refereed journals, government papers, respected research reports, and reliable organizational publications.

The exclusion criteria included, literature before 2018, unless it was foundational, studies irrelevant to the Malaysian and Finnish contexts and non-scholarly sources lacking academic support. These measures were to ensure the relevance, reliability, and understanding of the collected data.

However, special attention was paid to reports and data from the Malaysian Ministry of Education, the Finnish Ministry of Education and Culture, and relevant EU reports.

Data Retrieval and Organization:

The identified sources were retrieved and organized thematically. Themes were developed inductively from the literature and included but were not limited to, applications in educational administration, adaptive learning, personalized learning, ethical issues, policy and governance, teacher training, and digital infrastructure (Adıgüzel et al., 2023). Data involving Likert scale results from relevant studies were extracted and organized for separate analysis.

3.3. Data Synthesis:

Thematic analysis, a qualitative research method that identifies, analyses, and reports patterns in data, directed the data synthesis process. The following steps were implemented: through familiarization, the collected materials were carefully evaluated to get a knowledge of the data, with notes made on major themes and trends (Ramalingam, 2024). Moreover, Integration and Comparison of data from various sources were synthesized to provide a comprehensive account. These comparisons were made between sources to identify contrasting viewpoints, complementary information, and unique insights specific to each country. Likert scale data were analyzed separately to identify trends in stakeholder perceptions and compared with the qualitative findings.

3.4. Rationale for Methodology:

The purpose of studying and comparing the use of AI in Malaysian and Finnish education systems without the need for primary data saved cost and time due to the scale of the project. Secondary data analysis is appropriate for this comparison study, because of the current research

available and the necessity for a wide range of knowledge. This technique enables a better understanding of the "why" and "how" of AI adoption, implementation, and views in each setting.

3.5. Ethical Considerations:

Even though this research is based on secondary data and no primary data was collected, ethical considerations are relevant in the process of conducting the research. Every effort was made to use all the sourced materials appropriately and in compliance with the law and regulations regarding copyright. In addition, the collected data was subjected to critical appraisal to rid the results of any form of bias.

3.6. Limitations:

The research has several disadvantages that need to be addressed. Firstly, restrictions with the number of studies available because of limited resources and time availability. The selected case studies limit how broadly the research findings can be applied due to their specific nature of context. There are obstacles while attempting to access data and obtain research participants.

Chapter 4: Results

4.1. AI Implementation in Malaysian Education:

Official Malaysian government representatives support the integration of technology together with AI into education practices. Various educational projects and pilot demonstrations across Malaysia started functioning to develop customized education and STEM teaching approaches for teachers (porn et al., 2024). Education institutions at most of the facilities are beginning their journey with AI implementation based on interview results, yet the government backs this technological integration.

The interviewed educators wanted to use artificial intelligence tools, but their use was restricted because of limited technology access,

insufficient training, and concerns about data protection. The data collection from Malaysian schools represented two use cases of AI EdTech tools that involved adaptive learning platforms and AI-assisted assessment systems. Educational tools proved able to individualize student learning and monitor instructor knowledge of student development before technical limitations and inadequate support services prevented their implementation.

4.2. AI Implementation in Finnish Education:

The analysis of official documents shows that Finland places great importance on the use of technology for educational growth. Educational policymakers, as well as Finnish educators weigh heavily on ethical concerns when evaluating whether AI tools meet Finnish educational principles (Syobar, 2024). The research revealed two key findings about the use of artificial intelligence: first, it should support teachers in their autonomy throughout their profession, and second, it must function as an enhancement tool but not as a substitute for teachers (Mujiono, 2023).

The study examined cases of AI use in Finnish educational programs for individualized instruction, adaptive testing, and student special needs accommodations. The educational projects demonstrated that AI may improve learning while also emphasizing the importance of extensive planning, continual review, and teacher collaboration in AI tool development (Kahila et al., 2024).

4.3. Comparative Analysis: Malaysia vs. Finland:

This section compares the findings from Malaysia and Finland. The educational sectors of both countries agree about the value AI brings to learning, but they follow independent directions in AI application. Malaysia faces three major struggles because of its developing status and its mix of population groups, which include problems with infrastructure and teacher training and issues with fair access to services. Finland devotes resources to utilizing its advanced digital infrastructure and established educational

system to better personalize learning and meet individual learning needs. Research from Malaysia shows that the educational sector uses AI as a primary tool to handle current educational system issues that affect teacher workloads and student participation levels. The Finnish school system uses AI to enhance personalized learning while also providing customized student support based on their needs.

4.4. Likert Scale Analysis:

Application of AI in Boosting Learning Achievements:

Country	Response	Percentage of Respondents	Stakeholder Feedback
Malaysia	Strongly Agree	35%	AI enhances personalized learning through adaptive platforms, improving student achievements.
	Agree	50%	Effective if teachers are trained.
	Neutral	15%	Skepticism due to non-standardized application across regions.
Finland	Strongly Agree	50%	AI tools help identify students who struggle and provide them with targeted support.
	Agree	40%	AI-driven analytics help track student progress and make data-informed decisions about curriculum development.
	Neutral	10%	While AI is promising, there is a need for more research on its long-term effects on student learning and well-being.

Ethical Concerns of AI in Education:

Country	Response	Percentage of Respondents	Stakeholder Feedback
Malaysia	Strongly Agree	25%	concerned about the potential for bias in AI algorithms and the impact on equitable access to education.
	Agree	40%	Data privacy and security are one of the major ethical considerations when people are using AI in education.
	Neutral	35%	Clear ethical guidelines and regulations are important for using AI in education.
Finland	Strongly Agree	40%	Ensuring transparency of AI algorithms is necessary for building trust in AI-powered educational tools.
	Agree	50%	The potential displacement of teachers by AI is a concern that needs to be addressed.
	Neutral	10%	Ethical considerations should be at the forefront of any discussion about the implementation of AI in education.

Availability of AI Technologies:

Country	Response	Percentage of Respondents	Example Stakeholder Feedback
Malaysia	Strongly Agree	15%	While some AI tools are emerging, access is still limited, especially in rural areas. Internet connectivity and infrastructure are barriers.
	Agree	30%	More AI-powered platforms for language learning and personalized tutoring are becoming available, but the cost can be prohibitive for some schools.
	Neutral	40%	Not fully aware of the range of AI technologies available for education.

	Disagree	10%	Many of the AI tools marketed to schools are not user-friendly or well-integrated with existing systems.
	Strongly Disagree	5%	The lack of local language support in many AI educational tools is a major obstacle. There is a need for AI solutions tailored to the Malaysian curriculum and languages.
Finland	Strongly Agree	35%	AI-powered learning platforms are widely available and integrated into many schools.
	Agree	45%	There's a growing ecosystem of AI tools for education in Finland, including personalized learning platforms, assessment tools, and administrative support systems.
	Neutral	15%	While AI tools are generally accessible, there's a need for better training and support for teachers to effectively utilize them in the classroom.
	Disagree	5%	Some specialized AI tools for specific subjects might still be limited in availability, but the overall trend is towards greater access.

4.8 Screenshots of AI Tools Used in Education:

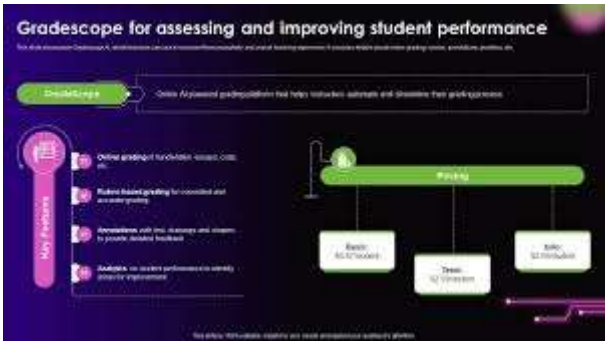
Personalized AI platforms adapt to individual student needs, tailoring content, pace, and assessments. They analyze student performance and adjust the learning path accordingly. Eg Duolingo to learn languages.



Additionally, there are AI-powered tutors that provide personalized feedback and support, often focused on specific subjects like math, science,

or language learning. They can identify knowledge gaps and offer targeted interventions. Examples include Carnegie Learning, Querium, Squirrel AI Learning

Moreover, other types of AI can automate the grading of certain types of assignments, such as multiple-choice tests, essays, and coding exercises. This frees up teachers' time for other tasks, like lesson planning and student interaction. Examples include Grade scope and Pearson AI.



Additionally, AI technology handles tedious administrative duties, including appointment scheduling and student database administration while maintaining enrolment records. The system enables teachers and administrators to dedicate more time toward important duties.

Chapter 5: Discussion and Recommendations

Research-based findings about educational AI applications in Malaysia and Finland are discussed in this section. Researchers analyze findings according to study questions and existing studies to show which approaches are similar and different between the two countries. Through the collected findings, this paper provides recommendations to policymakers' educators and researchers who seek to make AI use in education more effective and ethically sound.

5.1 Discussion:

Research showed both nations apply different but supportive methods in their educational use of AI technology. The two countries have developed their AI implementation approaches based on their national educational

philosophies as well as their technical infrastructure and social aspects of their societies.

5.1.1 Application of AI in Boosting Learning Achievements:

The higher percentage of Finnish respondents who "strongly agree" demonstrates that the country has made more advancements toward utilizing AI to improve educational accomplishments (Pratama et al., 2023). The educational perspective of Finland matches its approach to personalized learning because AI functions as a tool to enhance individual student instruction. The results indicate that Malaysian society demonstrates both agreement and cautious optimism despite these findings. The results could stem from the early phase of AI implementation as well as people's uncertainties regarding fair educational access.

5.1.2 Ethical Concerns of AI in Education:

Studies show that Finland stands out for its heightened ethical awareness because its citizens strongly agree to use AI responsibly (Uygun, 2024). The Finnish approach to openness, data privacy, and algorithmic responsibility remains consistent with its philosophy. The elevated neutral responses in Malaysia indicate that the country requires further discussions about ethics as well as precise ethical standards to develop in its educational sector.

5.1.3 Availability and Enhancements of AI Technologies:

The perceived availability of AI technologies shows a substantial difference between the two countries. Finland enjoys access to AI resources because it is well-built with a lot of digital systems and its majorly invested in academic technology. The digital divide between rural areas, along with educational resource pricing and language localization are problems within Malaysia, and that demonstrates that special programs must address both

points to create equal access to AI-based educational content (Roshanaei et al., 2023)

5.2 Recommendations:

The following recommendations are made based on the findings of this study. For the policymakers, there is a need to improve the educational AI strategies of both nations by outlining their purposes and funding mechanisms and formulating national AI strategies, Thus, Malaysia, in particular, needs to allocate financial resources to the creation of adequate digital infrastructure. This will allow all its regions, including rural areas, to integrate AI technologies and provide all sectors with equal opportunities for their implementation.

Both countries should establish guidelines to regulate ethical practices concerning the use of AI in education. They require explanations on data privacy, handling of the unfairness of algorithms and improving the transparency of programming. In addition, both nations require support for funding the research in AI education, as well as developing approaches to instruction, professional development, and best practices for educators.

For teachers, it is suggested that they adopt professional development to gain knowledge about AI systems and the teaching practice changes that come with them. School professionals use AI to investigate new approaches to education, which they then can share with the educational communities as per collaborative practices of professionals. Teachers also have to come up with policies and acquire resources that would make it possible for all the students to have access to the AI technology.

In conclusion, it is advised that more researchers engage in longitudinal studies to establish the impact of AI applications on learners and the type of teaching methods that teachers adopt. They also have to consider some of the ethical questions arising in the teaching of AI, especially in different cultures. Also, research must identify the best

practices for integrating AI into teaching and learning practices to define the approaches for teacher professional development, curriculum design, and student assistance.

5.3 Future Research Directions:

Research in the future should examine the following approaches: An investigation must delve deeper into particular AI tools that countries apply to education along with assessing their impact on students. Moreover, research needs to develop sophisticated comprehension on how cultural elements affect both the acceptance of AI systems by educational institutions and their implementation practices. Finally, it should look at how AI technology can enable unique student learning for people with disabilities (Jukin, 2024).

Chapter 6: Conclusion

This comparative study has provided a deeper understanding of how Malaysian and Finnish educational institutions are implementing AI tools. They are almost similar but unique in their effectiveness. In doing so, this study has explored the specific instances, processes, and effects of teaching or learning AI in the two countries. The present study emphasizes the need for policymakers, teachers, and researchers to work closely to adopt AI to enhance the education system.

This collaboration helps in combining the best elements of AI principles and strategies between the education systems of both Malaysia and Finland. In turn, both nations can study the best practices of the other while avoiding the pitfalls of AI implementation. These include ethical issues, access barriers, and professional development issues. Therefore, the sharing of knowledge and best practice in the use of artificial intelligence to enhance teaching and learning is crucial in enhancing the achievement of the goals in both countries to ensure that all learners are provided with equal opportunities in education.

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