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Exploring the Integration of Artificial Intelligence in Teaching Practices in University of Applied Sciences

Case SeAMK

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Thesis abstract

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This thesis investigates the impact of artificial intelligence on teaching tasks within the Business and Nursing degree programs at SeAMK. The research questions explore how AI influences teaching tasks, how teachers utilize AI, and which AI tools they employ. The study adopts a mixed-methods approach, involving interviews with teachers and a questionnaire distributed to all the teachers in these two degree programs.

Drawing upon the Innovation Diffusion Model and the Technology Acceptance Model in the literature review, the study examines the adoption and acceptance of AI in educational contexts. The findings reveal a scale of awareness and familiarity with AI among teachers, with ChatGPT and Bard emerging as popular AI tools for tasks such as education content creation, lecture material preparation, and research facilitation. While the majority of teachers find AI useful in enhancing their teaching practices, some express concerns regarding ethical implications, accuracy, and reliability.

The study highlights the importance of addressing ethical concerns, providing adequate training and support, and promoting a culture of responsible AI usage in education. Future research avenues include exploring the long-term implications of AI adoption on teaching and learning outcomes, investigating strategies for addressing ethical concerns, and examining the role of AI in nurturing inclusive and unbiased educational practices.

¹ Keywords: Artificial Intelligence, Seinäjoki University of Applied Sciences, teaching tasks, Integration, Ethics

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Terms and Abbreviations

AI : Artificial intelligence

GPT: Generative Pretrained Transformer

IB: International Business

SeAMK : Seinäjoki University of Applied Sciences

TAM: Technology Acceptance Model

UAS: University of Applied Sciences

1 INTRODUCTION

Artificial intelligence integration in higher education institutions has become a transformational force in the digital era, altering administrative, teaching, and learning procedures (Johnson, 2021). This thesis addresses the complex interactions between cutting-edge technology and modern education as it relates to the dynamic integration of AI in the setting of Seinäjoki University of Applied Sciences.

AI has made its way into academia as a powerful tool for boosting the educational experience because of its capacity to replicate human intelligence and decision-making (Johnson, 2021). Adoption and integration of AI in SeAMK extends a broad range and includes novel teaching techniques, personalised learning programmes, and administrative automation. The purpose of this study is to understand the complexities of this integration and its effects.

The relationship between the fields of AI and higher education is significant to me individually as a SeAMK student. My curiosity was interested by seeing how classrooms, office processes, and educational structures are changing. The attractive promise of AI to transform education and support institutional growth motivates a desire to thoroughly investigate its effects.

The significance of this research extends beyond academic curiosity. I examine SeAMK's use of AI in the hopes of uncovering insights and suggestions that can help the university implement AI more successfully and profitably. With the help of this thesis, SeAMK and other organisations of a similar nature will be able to utilise AI's full potential for the betterment of both students and the institution itself.

In the pages that follow, I will embark on a journey to uncover the twists and turns of AI integration at SeAMK, revealing the challenges, opportunities, and transformative potential of this cutting edge of technology.

1.1 Objectives and limitations

The main goals of this thesis are various and aimed at acquiring a thorough understanding of AI integration at SeAMK. The research's principal goal is to understand the integration of

AI at SeAMK for teaching. The target segment for the research will be mainly the SeAMK academic staff, precisely the teachers.

Secondly, the study aims to offer a fair assessment in brief of the advantages and difficulties associated with the use of AI in the context of higher education. Analysis of the effects of AI on different aspects of academic life, such as its impact on teaching strategies, research endeavors, and the simplification of administrative procedures, will receive special focus. However, this will be covered very briefly to prevent the writing deviating from the topic.

In addition, the research will explore the frameworks and techniques used at SeAMK on its path to AI integration. It attempts to uncover insightful information and best practices for implementing AI technologies in educational institutions through this investigation. The study also aims to record the perspectives and judgements of teachers at SeAMK. This feedback will offer crucial qualitative information on their perceptions, hopes, and worries regarding the adoption of AI, which will impact the conclusion of this thesis study.

Finally, the thesis seeks to summarize its findings and to state the conclusions and write a recommendation which optimistically will act as a roadmap for SeAMK to integrate AI technologies as effectively as possible while also providing useful information for other educational institutions who may want to take SeAMK's experience into consideration in their roadmaps to AI integration for teaching tasks.

Even though this research has a lot of potential, it is important to recognize the constraints that could affect its application and results. The depth and scope of the investigation could potentially be constrained by resource limitations, including both time and human resources. These limitations might affect how much data is gathered, how it is analyzed, and how many individuals I will be able to reach.

Moreover, the research findings, while insightful, may not be universally applicable to all educational institutions in Finland. The uniqueness of SeAMK's AI adoption journey, coupled with differences in AI integration levels and organizational structures among institutions, may restrict the generalizability of the study's conclusions. A further possible barrier is data accessibility. Due to privacy concerns or the limitations of data gathering methods, the

accuracy and availability of data may be constrained, thereby reducing the comprehensiveness of the research.

The study's time limitation may also make it difficult to track the long-term effects of AI adoption. As a result, the research can be primarily concerned with immediate consequences and trends of the stakeholders. Another difficulty is presented by technology's quick evolution. By the time the thesis is published, certain discoveries might be out-of-date, therefore they must be considered. Additionally, SeAMK's organizational culture and structure might not be compatible with that of all other educational institutions, which could limit the recommendations' capacity to be applied outside of the specific case study.

Lastly, it is important to note that this study will primarily focus on one specific AI model, namely the Large Language Model (LLM). While LLM is highly relevant to the research topic, this specific focus may limit the exploration of other AI models, such as Computer Vision (MVision), Sensor Learning, Music Generation (Music), or Generative Language Models (GLM), which might also have relevance to AI adoption in education. Therefore, the study's findings will be interpreted within the context of this selective focus on LLM.

1.2 Background information

A multifaceted field at the cutting-edge of technological advancement, AI attempts to imitate human intelligence and problem-solving abilities in machines (Russell & Norvig, 2021). AI uses algorithms, data, and processing power to give machines the ability to do activities like problem-solving, learning, language comprehension, and environmental observation that traditionally need human intellect.

There are various sorts that define AI's capabilities and range of use. These varieties include General or Strong AI, which has human-like intelligence and adaptability across multiple domains, and Narrow or Weak AI (ANI), which focuses on certain tasks within a small number of domains (Kurzweil, 2005).

A key component of AI, machine learning (ML) enables computers to learn from data, see patterns, and make predictions on their own (Bishop, 2006). Deep Learning, a branch of

machine learning (ML), uses artificially generated neural networks inspired by the human brain to handle large amounts of data, excelling at tasks like speech and image recognition (Goodfellow et al., 2016)

Another aspect is Reinforcement learning, which teaches AI agents to take actions in sequence in order to maximize rewards and is crucial to autonomous systems, robotics, and games (Sutton & Barto, 2018). Language Models like Large Language Models (LLM) are essential to Natural Language Processing (NLP), which aims to give computers the ability to understand, interpret, and write human language (Devlin et al., 2019).

The background for my study, which examines AI integration within the educational environment with an emphasis on the Language Model (LLM), is supported by the broad landscape of AI and its many forms (Smith & Jones, 2020). We can better understand the significance of LLM within the greater AI ecosystem and its possible effects on higher education institutions, like this case study for SeAMK, by having a thorough understanding of the larger AI environment (Brown & Johnson, 2019).

To describe the target institution for this thesis, Seinäjoki University of Applied Sciences SeAMK is a wide-ranging and community-based university of applied sciences, where the goal of operations is to be the best university for students. The comprehensive training offer in six fields of study, combined with high-quality research, development, and innovation services, enables SeAMK to be effective regionally, nationally, and internationally. SeAMK has approximately 5,000 students, of which 10% are international degree students. There are approximately 400 employees at SeAMK and the organization is a limited company, where the general meeting and the board of directors have the highest decision-making power. (Seinäjoki University of Applied Sciences, n.d)

At SeAMK, there are many advanced degree programs offered of which majority of student attraction goes to degree programs such as, Bachelor of Business Administration - DP in IB, Bachelor of Engineering, DP in Automation Engineering, DP in Agri-Food Engineering, Bachelor of Health Care, DP in Nursing, Master of Business Administration, DP in International Business. As stated earlier, in this thesis, the research focus will be on Degree Programs in International Business and Nursing.

1.3 Research questions.

To fulfill the objectives of this thesis, the following research questions will be used to find out how AI is integrated at SeAMK for teaching tasks.

- How has Artificial Intelligence influenced teaching tasks at SeAMK in Business and Nursing degree programs?

- **How are the teachers using AI for their teaching tasks? Have teachers found AI to be useful?**

- **Which AI tools are they using for these tasks?**

Based on the feedback received for the above research questions, the aim is to provide a benchmark between these two faculties. And few recommendations will also be stated which will be useful in roadmaps of AI integrations journeys if required.

1.4 Structure of the thesis

In this thesis, titled " Exploring the Integration of Artificial Intelligence in Teaching Practices in UAS – SeAMK Case," the structure is designed to present a cohesive and comprehensive exploration of AI integration within the context of SeAMK. The Table of Contents serves as a guide, providing an overview of the thesis organization. The first chapter introduces the research's scope, significance, and objectives, giving readers a glimpse of what is written ahead. The Literature Review carefully searches into existing knowledge on AI adoption and integration in higher education, not particularly focusing on SeAMK's experiences and relevant scholarly literature. The Data Collection and Analysis section outlines the research methodology and tools used to consider AI integration at SeAMK. The Discussion critically analyzes the findings, drawing connections between research outcomes and existing literature. The Conclusion summarizes key insights and their broader implications, and the Bibliography follows APA 7 style to document all referenced sources, ensuring the academic accuracy of the research. This structured framework guides readers through a thorough exploration of AI integration at SeAMK for teaching tasks, contributing to both academic knowledge and practical insights in the field of higher education.

1.5 Methodology

I've chosen to use a qualitative research method for my thesis because it's a great fit for understanding how AI is being integrated in higher education, specifically at SeAMK. According to Clements (2023), qualitative research helps us dig deep into the thoughts and experiences of important people involved, like teachers. To gather information, I'll have semi-structured interviews with these individuals, so they can share what they think about using AI in education and their personal experience.

This approach allows us to explore the reasons behind their decisions, what makes it easy or difficult, and what they hope to achieve with AI. By analyzing their detailed responses, I'll be able to create a complete picture of how AI adoption is handled at SeAMK, and what they've learned from the process or whether there are no initiatives taken yet towards AI Adoption.

In simpler terms, by using a qualitative research method, I am trying to understand how and why SeAMK is using AI in education, by talking to the people involved and asking them questions. This will help me to understand what's working well and what can be improved.

Also, to reach out to other teachers whom I may not be able to interview, I will be using a questionnaire which will be sent via email to all the teachers of the two degree programs. By this way, I will be able to reach out to all the teacher and receive more data which will help positively to the thesis writing and to the discussions and to the conclusions of the thesis.

2 LITERATURE REVIEW

This section explores into existing academic research relevant to the integration of AI in higher education, particularly focusing on SeAMK case study. The writing explores various theories and models that provide insights into the complexities of AI integration in educational settings. These theories include innovation diffusion, technology adoption, and educational change models, which help us understand the challenges and benefits of using AI in higher education. This literature review sets the stage for my realistic study at SeAMK.

2.1 Innovation Diffusion Model

The Innovation Diffusion Model, crafted by Everett Rogers (2003), is a seminal framework that sheds light to the complex process through which new ideas, technologies, or innovations spread within a social system. Originating in the field of communication studies, this model has found widespread application in various disciplines, including education, healthcare, and sociology. The essence of the model lies in its five-stage diffusion process, which encapsulates the journey of an innovation from its introduction to widespread adoption. See Figure 1.

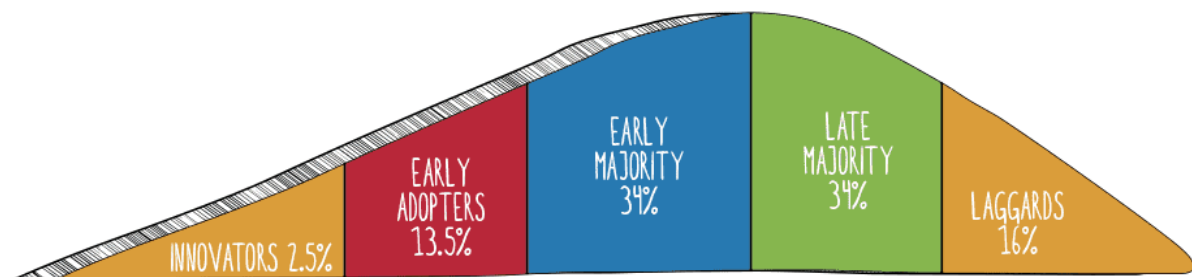


Figure 1. Diffusion of Innovation (Smart insights, 2013).

2.1.1 Stages of Diffusion

Rogers (2003) describes the diffusion process into five distinct stages, each characterizing a different side of the adoption journey. The initial stage is 'Knowledge,' where individuals become aware of the existence of innovation. This is succeeded by the 'Persuasion' stage, wherein potential adopters weigh the advantages and disadvantages of embracing the innovation. The 'Decision' stage marks the point at which individuals commit to either adopt or reject the innovation. Subsequently, the 'Implementation' stage witnesses the practical application of the innovation, followed by the 'Confirmation' stage, where users assess the results and decide to continue or discontinue its use.

2.1.2 Adopter Categories and Influencing factors.

A distinctive feature of the Innovation Diffusion Model is the categorization of adopters based on their willingness to embrace new ideas. Innovators, characterized by their risk-taking propensity, are the earliest adopters. Early Adopters, often opinion leaders, follow, influencing the Early Majority. The Late Majority, more skeptical, adopts innovations once they become the norm, while Laggards are the last to adopt. This adopter categorization contributes to a better understanding of how different individuals or groups engage with innovation over time (Rogers, 2003).

Also, Rogers identifies several factors influencing the adoption decision. Relative Advantage, Compatibility, Complexity, Trialability, and Observability collectively contribute to the perceived benefits and challenges associated with an innovation. Innovations that offer clear advantages, align with existing values, are easy to understand and try, and provide visible results are more likely to be adopted (Rogers, 2003).

2.1.3 Communication Channels

Communication channels play a pivotal role in the diffusion process. Rogers emphasizes the importance of various channels, such as mass media, social networks, and interpersonal communication. The way information about an innovation is disseminated influences its

adoption rate. The interplay of these channels contributes to the social system's readiness and ability to adopt innovation (Rogers, 2003).

2.1.4 Comparative Analysis with Educational Change Models:

Given that the Innovation Diffusion Model is closely related to educational change theories, such as the Concerns-Based Adoption Model (CBAM) and Fullan's model, SeAMK policy makers can analyze the intersections and divergences between these models. CBAM, developed by Hall and Hord (2011), is an educational change theory that focuses on addressing the concerns and needs of individuals during the process of adopting and implementing innovations. The model identifies different stages of concern that individuals may experience, ranging from personal concerns to collaborative and institutional concerns. CBAM provides a systematic framework for understanding and addressing these concerns, offering insights into the dynamics of change at both the individual and organizational levels. Michael Fullan's model of educational change, as outlined in *The New Meaning of Educational Change* (2007), is characterized by a focus on moral purpose, building relationships, and developing knowledge and skills. Fullan emphasizes the human and cultural dimensions of change, stating that successful educational change requires a commitment to shared values, collaborative efforts, and ongoing professional development. The model supports a holistic approach that considers not only the technical aspects of change but also the ethical need and relational aspects within the educational community.

In the context of SeAMK's AI adoption, the Innovation Diffusion Model meets with CBAM and Fullan's model in several keyways. All three models emphasize the importance of understanding stakeholder concerns and effective communication channels during the adoption process. CBAM, with its systematic approach, matches the Innovation Diffusion Model by providing a structured framework for addressing individual concerns at different stages. Fullan's (2007) model, on the other hand, adds a layer of purpose and personal scope, emphasizing shared values and collaborative efforts in the change process.

In summary, SeAMK's policy makers can benefit from a comprehensive understanding of the dynamics of AI adoption by integrating insights from the Innovation Diffusion Model, CBAM, and Fullan's model. While these models share common ground in addressing

stakeholder concerns and effective communication, their unique emphases contribute to a more important and holistic viewpoint on the complex nature of educational change.

As stated, this comparative analysis can provide a more comprehensive understanding of the dynamics of AI adoption within the specific educational context at SeAMK. However, this thesis will not cover this analysis in detail due to time constraints.

By applying the Innovation Diffusion Model to my thesis, I can systematically examine the process of AI adoption at SeAMK, identify potential challenges, and propose targeted strategies to enhance the successful integration of AI technologies in higher education.

2.1.5 Diffusion Theory Conclusion

The Innovation Diffusion Model stands as a basis in the study of innovation adoption. Its comprehensive framework, involving stages, adopter categories, influencing factors, and communication channels, provides a strong foundation for understanding the sophisticated process of innovation diffusion. In the realm of education, this model guides researchers and experts in navigating the complexities of introducing and implementing innovations, ultimately shaping the landscape of educational change.

2.2 Technology Adoption Model (TAM)

The Technology Adoption Model (TAM), proposed by Davis in 1989, has emerged as a foundational framework for comprehending users' acceptance of new technologies, with a particular emphasis on organizational contexts. Rooted in the field of information systems, TAM suggests that an individual's decision to adopt a technology is determined by two primary factors: perceived ease of use and perceived usefulness (Davis, 1989). Since its inception, TAM has undergone improvements and extensions, becoming a cornerstone in the study of technology adoption in various domains, including education, business, and healthcare. The model has not only contributed to a theoretical understanding of the adoption process but has also served as a practical guide for researchers and practitioners seeking to enhance technology implementation strategies. See figure 2.

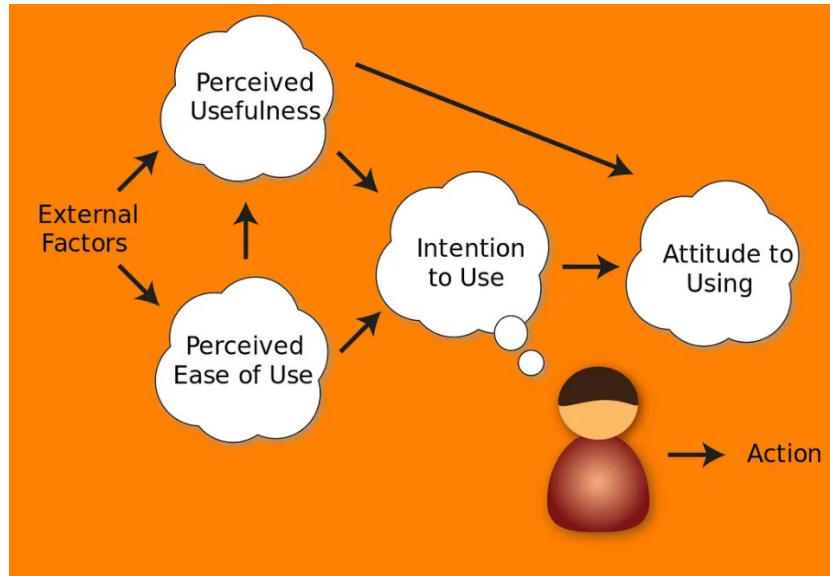


Figure 2. Technology Acceptance Model (Theory Hub, 2023).

2.2.1 Perceived Ease of Use and Perceived Usefulness:

Central to TAM is the concept of perceived ease of use, defined as the extent to which a person believes that using a particular system would be free from effort. Simultaneously, perceived usefulness refers to the degree to which an individual believes that adopting a specific technology would enhance their job performance (Davis, 1989). These two factors are integral to users' behavioral intention to adopt technology, subsequently influencing their actual usage.

2.2.2 Evolution of TAM:

Over the years, TAM has undergone enhancements and adaptations to address its limitations and accommodate the evolving landscape of technology adoption. Extensions such as TAM2, TAM3, and Unified Theory of Acceptance and Use of Technology (UTAUT) have incorporated additional variables and contextual factors to enhance the model's predictive power and applicability in diverse settings (Venkatesh et al., 2003; Venkatesh & Davis, 2000;).

2.2.3 Applications of TAM in Higher Education

In the context of higher education, TAM has been widely applied to understand and predict the adoption of various technologies. For SeAMK's exploration of AI adoption, TAM provides a structured framework to examine the factors influencing educators, administrators, and students' acceptance of AI technologies. By evaluating perceived ease of use and perceived usefulness, the model helps identify potential challenges and benefits associated with AI integration.

TAM's focus on individual perceptions makes it particularly relevant when considering educators' acceptance of AI tools. Perceived ease of use reflects the extent to which educators believe AI technologies are user-friendly and straightforward in an educational context. Perceived usefulness, on the other hand, gauges teachers' beliefs about the benefits AI can bring to teaching and learning. Investigating these aspects at SeAMK will provide valuable insights into how teachers may embrace or resist AI adoption.

In higher education institutions, administrators play a pivotal role in technology adoption decisions. TAM helps elucidate the factors influencing administrators' decisions to integrate AI into administrative processes, learning management systems, or other educational platforms. Understanding the perceived ease of implementing AI solutions and their perceived usefulness in enhancing administrative efficiency becomes crucial for guiding strategic decisions at SeAMK as well as any other educational institution.

TAM is equally applicable to students, whose acceptance of AI tools is integral to the success of their educational experiences. Perceived ease of use can influence the degree to which students are comfortable interacting with AI-based learning resources, while perceived usefulness directly impacts their learning outcomes. Investigating students' perspectives at SeAMK allows for a holistic understanding of how AI adoption influences the student learning experience.

3 DATA COLLECTION AND ANALYSIS

Research data was gathered through semi-structured interviews as well as through a structured questionnaire. Interview research has the advantage of versatile data collection, which allows interviewees to freely respond to questions. This encourages them to provide a full narrative of the experience. Questions are flexible and permit the participant to express himself/herself without restraining or guiding the answer. Clements (2023) claims that interview research enables the researcher to obtain original and distinct data directly from a source in accordance with the requirements of the study. Additionally, it produces accurate findings fast and permits sample control. On the other hand, by collecting data through structured sets of questions, I was able to reach the target segments which I was not able to reach through interviews.

This study's foundation is a qualitative research methodology. Thematic analysis was used in the data analysis process. Villegas (n.d.) defines thematic analysis as a qualitative data analysis method that includes looking over a set of data and scanning it for patterns in the interpretation of the data to identify themes. I followed the 6 steps of thematic analysis to identify patterns as well (See Figure 3). Further, all the feedback points were added into a mind map. Buzan (1970) popularized the idea of mind mapping as a tool for learning, organizing information, and enhancing creative thinking. Buzan emphasizes the use of visual elements, associations, and nonlinear structures to represent ideas and information in a more natural and engaging way. As said, the use of the mind map in this study was supportive (See Figure12).

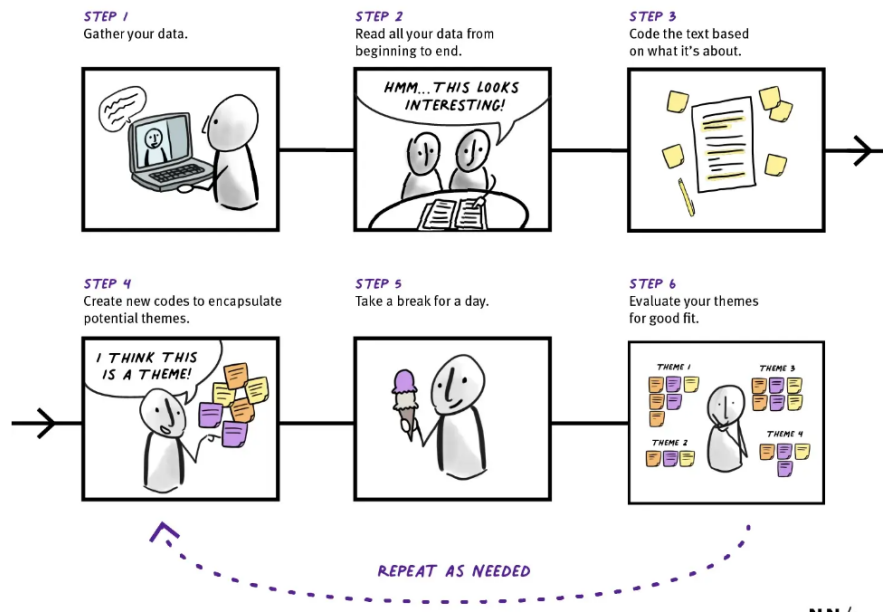


Figure 3. Thematic Analysis process (Experience Management, n.d).

Participants in the interviews were contacted via email. The interview was anticipated for roughly thirty minutes, and the interviewees were informed on the same. Every interviewee chose a time which was suitable for them.

The semi-structured interviews took place between 1st December 23 to 20th January 24. The interviews were recorded. The meetings were held physically as well as via MS Teams. Each participant consented to the interviews being conducted in an anonymous manner. 4 teachers from IB and 3 teachers from Nursing were interviewed. The interviewees will be referred to as IBT1-4 and NT1-3 in upcoming writings. Also, a questionnaire made in Google Forms was sent to all the teachers of IB and Nursing degree programs on 07th December 23 via email. 6 responds from IB and 10 responds from Nursing were received accordingly. After the data has been analyzed, all material, information, recordings from interviews have been deleted. The only information to be disclosed regarding the interviewees is the degree program which they belong to.

The purpose of the study is to know about the AI adoption at SeAMK. The study investigates how teachers use AI technologies in their professional lives as well as in personal life and

what is their personal view/opinion about AI integrated to education. The aim was to address the questions below via research.

- How has Artificial Intelligence influenced teaching tasks at SeAMK in Business and Nursing degree programs?

- How are the teachers using AI for their teaching tasks? Have teachers found AI to be useful?
- Which AI tools are they using for these tasks?

3.1 Question #1: Awareness of AI Language Models

The interviewees were asked about whether they are aware of AI language models or at least about AI. To make the question more understandable, examples for AI language models were also mentioned.

“Well, I don’t know much about AI. I know only a little.” (IB-T1)

“Yes, I know very well. From my point of view, knowing about AI and using them is very important”. (IB – T2)

“Yes, I know a little bit” (IB -T3)

“Yes, I know, and I use them daily” (IB – T4)

“Yes, I know. Well, I’m not an expert at it. But I think I know about AI which is sufficient for my current requirements” (N – T1)

Yes, I know something. I know it is used for certain things. (N – T2)

I don’t know much, but I know AI and I know little bit about ChatGPT (N – T3)

3.2 Question #2: Use of AI - Which AI Language model used and in which context.

Then the interviewees were asked about the language model they prefer to use or have used as well as whether they use it in personal life and work life.

“I have used ChatGPT. I used it in both in personal and professional life” (IB - T1)

“I have used Bard little. But, mostly ChatGPT daily. I think it has been so good that I don't need anything else at the moment.....” (IB – T2)

“I have never used any because I prefer not to.....” (IB – T3)

“I use ChatGPT and Bard. I think I mostly use Bard because I think it gives unique answers. Of course, I sometimes search same questions in both ChatGPT and Bard to evaluate the outputs....” (IB – T4)

“I use ChatGPT. I use it mostly for my professional work.....” (N – T1)

“I use ChatGPT. I used it mostly to help with my professional work. But sometimes I check some of information which I need to know in personal life from ChatGPT...” (N – T2)

“I have not yet used ChatGPT. but I will use it. I have tried it some weeks ago during a training program” (N – T3)

3.3 Question #3: Activities done using AI Language models.

In this section I researched about what kind of activities the teachers do using AI. Whether they use it to automate tasks, eliminate or optimize their daily tasks.

“I have tried to use ChatGPT to check whether it gives correct answers for the exam questions. Also, I have searched about the bible and Jesus to know how it will answer these deep questions....” (IB-T1)

“I basically use ChatGPT to get an idea about forming lecture materials, class discussion points, structure the lecture as it kind of give me the base for the lecture and then I will do the contents of course by myself. I think it saves my time. Also, sometimes if I have something in mind that I just want to check how ChatGPT will answer me, I have asked some questions but not so much personally.,” (IB -T2)

“I use ChatGPT and Bard mainly to prepare lecture materials. I like Bard more because it is integrated with documents and sheets. It gives me ideas about the teaching topics according to the level of the degree program. Of course, There are feedback which are not acceptable as well. AI doesn't have any imagination at all, really need to give instructions properly. Sometimes the outputs can be repeating. Based on the results I get; it is easy for me to develop the course structure. I searched for the same topic in ChatGPT as well. So, whichever is better, I use them. For my personal life, I always use ChatGPT to ask anything. I don't really rely on the statistics it shows, but the information has always been enough for me. If I want in-depth information, I refer to reliable materials.” (IB – T4)

“I have tried ChatGPT to see how it works. I searched about a patient case to see how it answers. But all the time AI was not able to correctly identify the case. Even my students have mentioned to me that they have tried to solve patient cases using AI but the answers have been wrong. I'm happy that the student searched AI and identified that it is wrong. I think ChatGPT most of the time answers correctly about medicine prescription. Also, Sometimes I have used AI to structure my lectures...” (N-T1)

“I have used ChatGPT to search for titles and abstracts for my courses. It always gives good content and ideas.” (N-T2)

3.4 Question #4: Personal considerations of the use of AI.

“Well, I don’t like AI to have my personal information because I don’t know who will have them or whether they will be misused. I know there is an AI language model powered by Google. I might try it someday since Google have my information and I am already late to worry about it. But, for now I think it is damaging the education system and making students dumb.” (IB – T3)

“Even though I have not really used it so far, I will be using ChatGPT in future. I think I can use it to search for discussion points, like how health visitors work will be in future or something, I want to try it to write little speeches or nice things like that. I have not used AI for my teaching mainly because as you know I teach nursing. So, everything I teach should be with facts and accurate, I don’t know whether AI gives me accurate information.” (N – T3)

3.5 Question #5: Trainings and Guidelines regarding the use of AI at SeAMK

“There were some stuffs informed during a general meeting. But nothing more than that. No training to complete guidelines. It is teachers’ choice to accept or reject the use of AI” (IB – T1)

“Well, we were only briefed about how it’s allowed to use and how we need to mark the sources. And of course, we are always responsible for our materials and things like that, but not so much training or something about when to use or how to use. We had like a one hour or two-hour kind of training from another teacher that was presenting on what different kind of tools there are and how you can use them. But I already knew the tools, so it wasn't like nothing new to me at that time.” (IB – T2)

“No, I have not received any training. Guidelines as in it is teachers’ wish to whether accept or reject. If students use AI for their writings, they must do the citations properly.” (IB -3)

“No proper training. They have offered, but a very basic training kind of thing which is not really anything for me. We had little discussions about the use of AI and the same subject was mentioned in one or two meetings. As for the guidelines, it is a yes for students if students are using AL but no for the teachers, the teachers have the choice to accept the students use of AI or reject. Also, there was a course which all teachers were encouraged to follow” (IB – 4)

“There is this model course, but I haven't had time to do that because I have had a little bit busy. There was also some short training for teachers. I think that me and my colleagues are like, we want to test new things and that's why we usually when we have time, when we are in social media, they have some videos about somethings which work this way and that way you can test this one and that one and some of the Facebook groups for example which are for the teachers and that's how I have got some information about how things work also. And yes, we have been given guidelines from SeAMK.” (N-T1)

“There was a training. One trainer came and did a short presentation. I think it is from the digital team. Lot of discussions happened in several staff meetings. Teachers are offered a Moodle course. I don't have a clear picture about what SeAMK wants and what guidelines. ” (N-T2)

“Yes, there was some little training. But not a comprehensive one. Yes, we are given guidelines about how to accept/reject writings done using AI” (N – T3)

In summary, all the interviewees declared to be aware of the existence and availability of artificial intelligence. The responses from the interviewees indicate differing levels of awareness of AI language models. While some expressed familiarity with AI and its importance in education, others admitted to having limited knowledge. Notably, all interviewees acknowledged the existence and availability of artificial intelligence, indicating a general awareness within the teachers at SeAMK.

Interviewees showed their preferences for specific AI language models and provided insights into their usage patterns. ChatGPT appeared as a popular choice among teachers, utilized for both personal and professional tasks. Bard was also mentioned, valued for its unique answers, option to integrate with documents and sheets and its versatility. Interestingly, some interviewees expressed reluctance or hesitation to use AI, citing personal preferences or concerns about accuracy and reliability, particularly in fields like nursing where correctness and factual accuracy are paramount. Also based on the feedback it shows that teachers at SeAMK use AI language models for a range of activities, primarily focusing on educational content creation and lecture material preparation. ChatGPT and Bard are used as a support to generate lecture materials, structure course content, and facilitate research. All teachers specifically mentioned that AI is used mainly to create the foundation of the teaching materials and they develop the materials according to their requirements.

The reluctance to use AI expressed by some interviewees is shown in concerns surrounding data privacy, misinformation, and the observed impact on the educational system and student learning.

The responses from the teachers regarding their opinions on using AI in teaching practices and the availability of training and guidelines at SeAMK provide valuable insights into the current environment of AI integration in education. Teacher IB-T3 expresses concerns about the potential misuse of personal information by AI systems and their observed negative impact on the education system, suggesting disbelief towards AI adoption. Furthermore, Teacher N-T3 acknowledges the potential utility of AI tools but expresses hesitation about their accuracy, especially in a field like nursing where factual accuracy is crucial.

The responses indicate a lack of comprehensive training on AI integration at SeAMK. While some teachers recall briefings and presentations, these sessions seem insufficient to provide a thorough understanding of AI tools and their applications.

The availability of guidelines about the use of AI appears to be inconsistent, with some teachers mentioning limited information on when and how to use AI tools. However, there seems to be a general understanding that the decision to adopt AI in teaching is left to the choice of individual teachers.

Teacher N-T1 mentions self-motivated learning through social media and online resources, suggesting a proactive approach to staying informed about AI developments despite the lack of formal training. Teacher N-T2 notes the presence of some training sessions conducted by the SeAMK digital team but expresses uncertainty about the university's specific expectations and guidelines regarding AI usage.

3.6 Data Analysis of structured questionnaire

A questionnaire was sent to all teachers in Business and Nursing degree programs with eight structured questions. By this, I was able to reach out to the teachers whom I was not able to interview.

Summary of the feedback.

As stated previously, as quantitative research approach, a structured questionnaire was sent to all the teachers of International Business and Nursing degree programs. Feedback was received from 6 IB and 10 Nursing teachers. (See Figure 4).

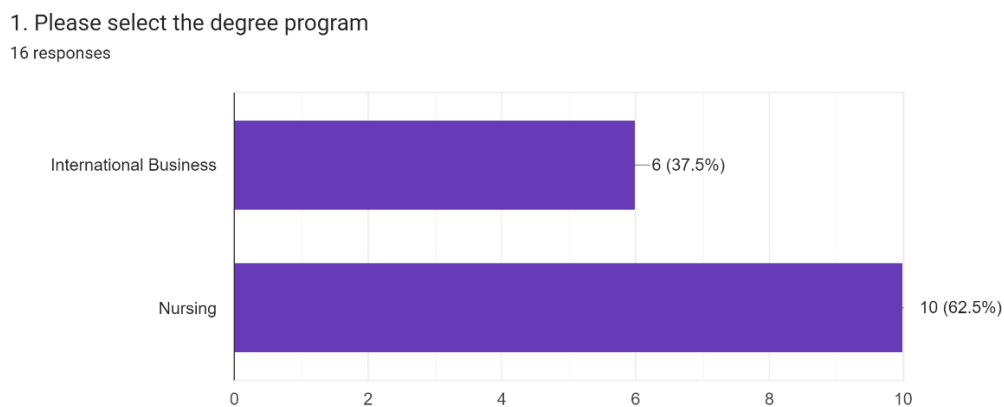


Figure 4. Degree Program.

Most of the respondents were aware of the AI language models whereas two respondents have stated the unawareness of the AI language models. (See Figure 5).

2. Do you know about AI Large language models? For example, ChatGPT, Bard AI, etc

16 responses

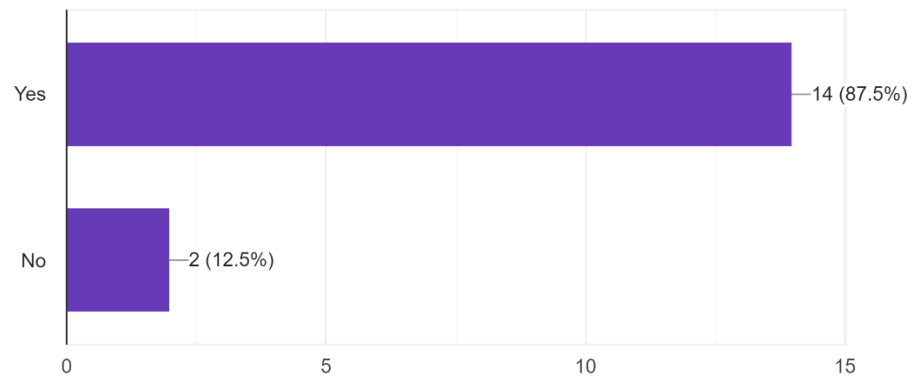


Figure 5. Awareness of AI language models.

Interestingly, all of the respondents who were aware of AI language models reported using them for personal purposes, indicating a widespread adoption of AI in their personal lives. (see Figure 6)

3. Have you used any AI model personally?

16 responses

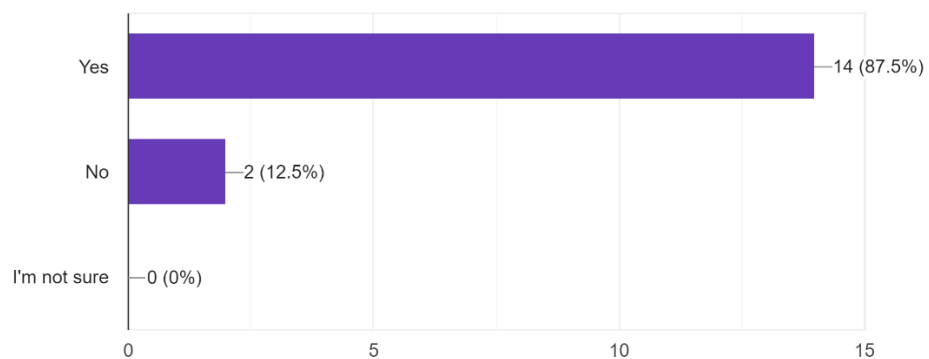


Figure 6. Use of AI in personal life.

Importantly, in their professional roles, 10 teachers utilized AI tools, with ChatGPT being the most commonly used, while a few also used Bard. (See figure 7 and figure 8)

4. Have you applied any AI model in your workplace?

15 responses

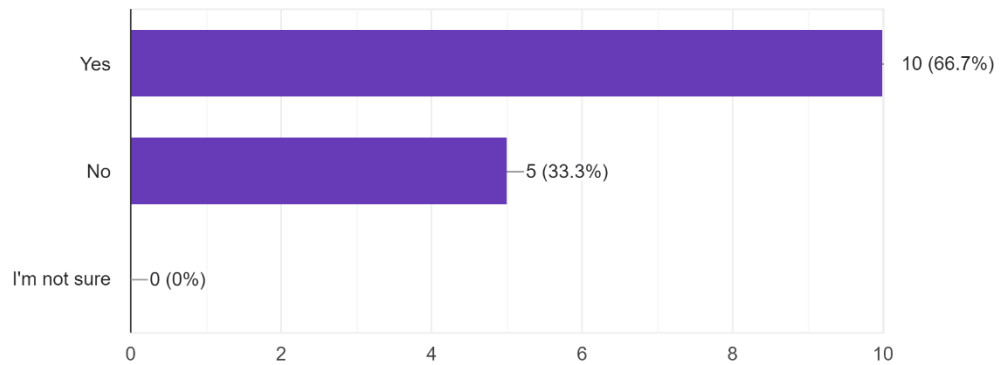


Figure 7. Use of AI models at work.

5. Which AI app or software are you using at SeAMK?

14 responses

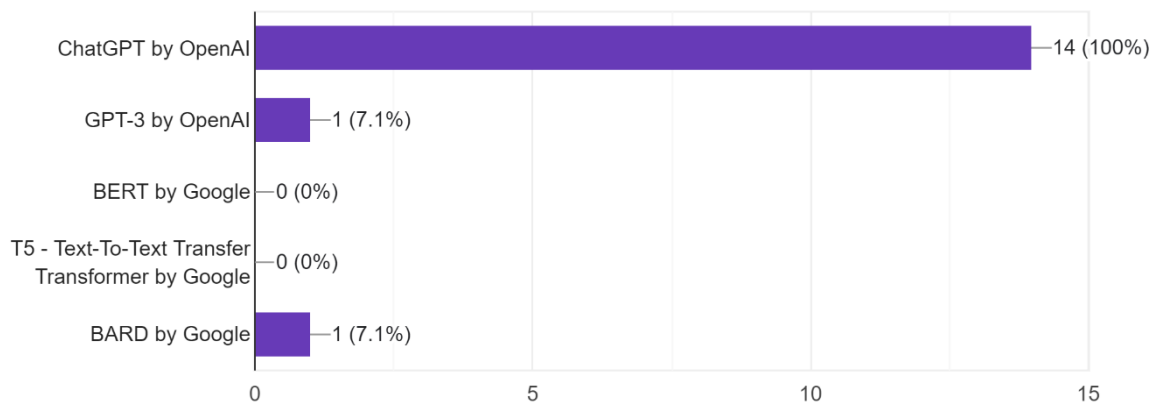


Figure 8. Type of AI modes used.

The teachers incorporated AI into various teaching tasks, such as creating assignments, generating exam questions, and crafting articles, emphasizing its potential for enhancing educational practices (see figure 9).

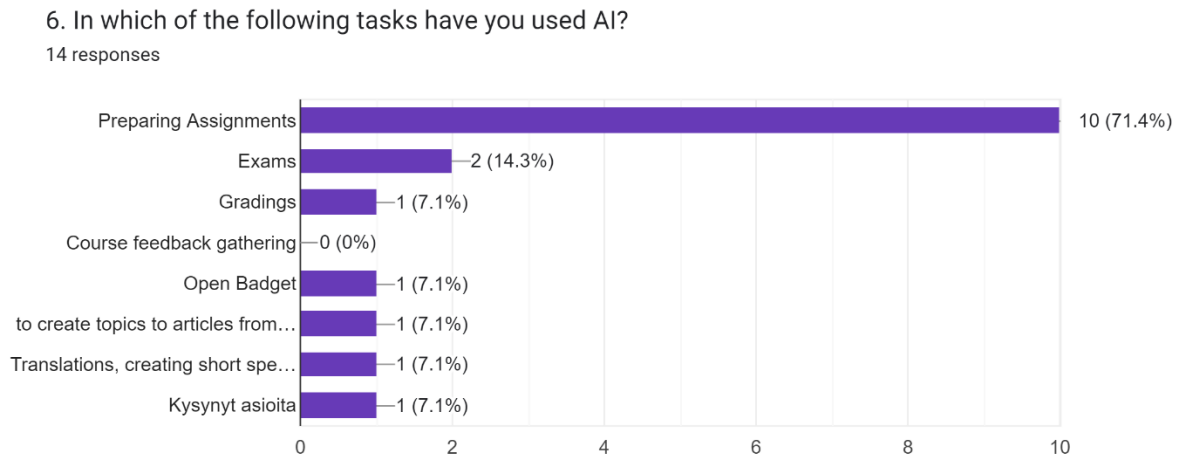


Figure 9. Tasks done using AI.

Despite the wide presence of AI usage, only a minority mentioned receiving training from SeAMK about the use of AI, highlighting a potential gap in educational support (see figure 10).

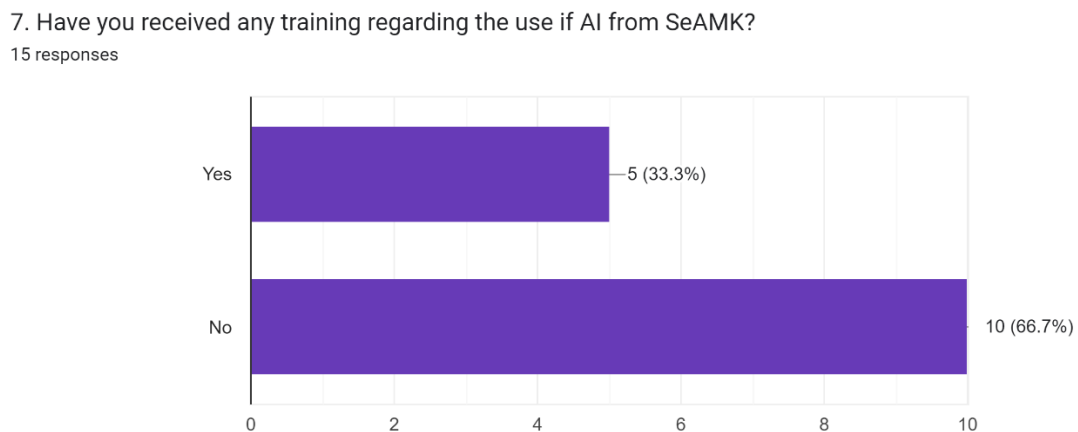


Figure 10. Trainings about the use of AI.

However, the majority of respondents reported receiving clear guidelines from SeAMK regarding the acceptance of AI (see figure 11).

8. Has SeAMK given you any clear guidelines for the use of AI at work?

16 responses

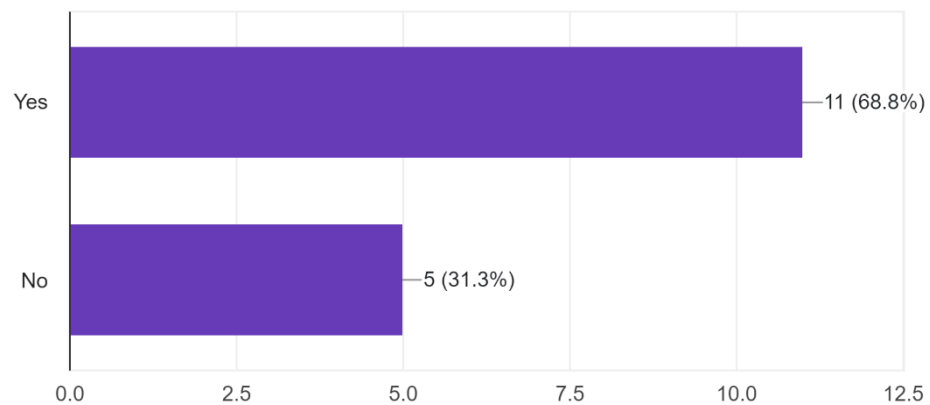


Figure 11. Guidelines for the use of AI at SeAMK.

Overall, the findings suggest a significant awareness and utilization of AI among teachers, both in personal and professional contexts, with room for further training initiatives to maximize its benefits in education.

The below mind map was also used when decoding and analyzing the research data.

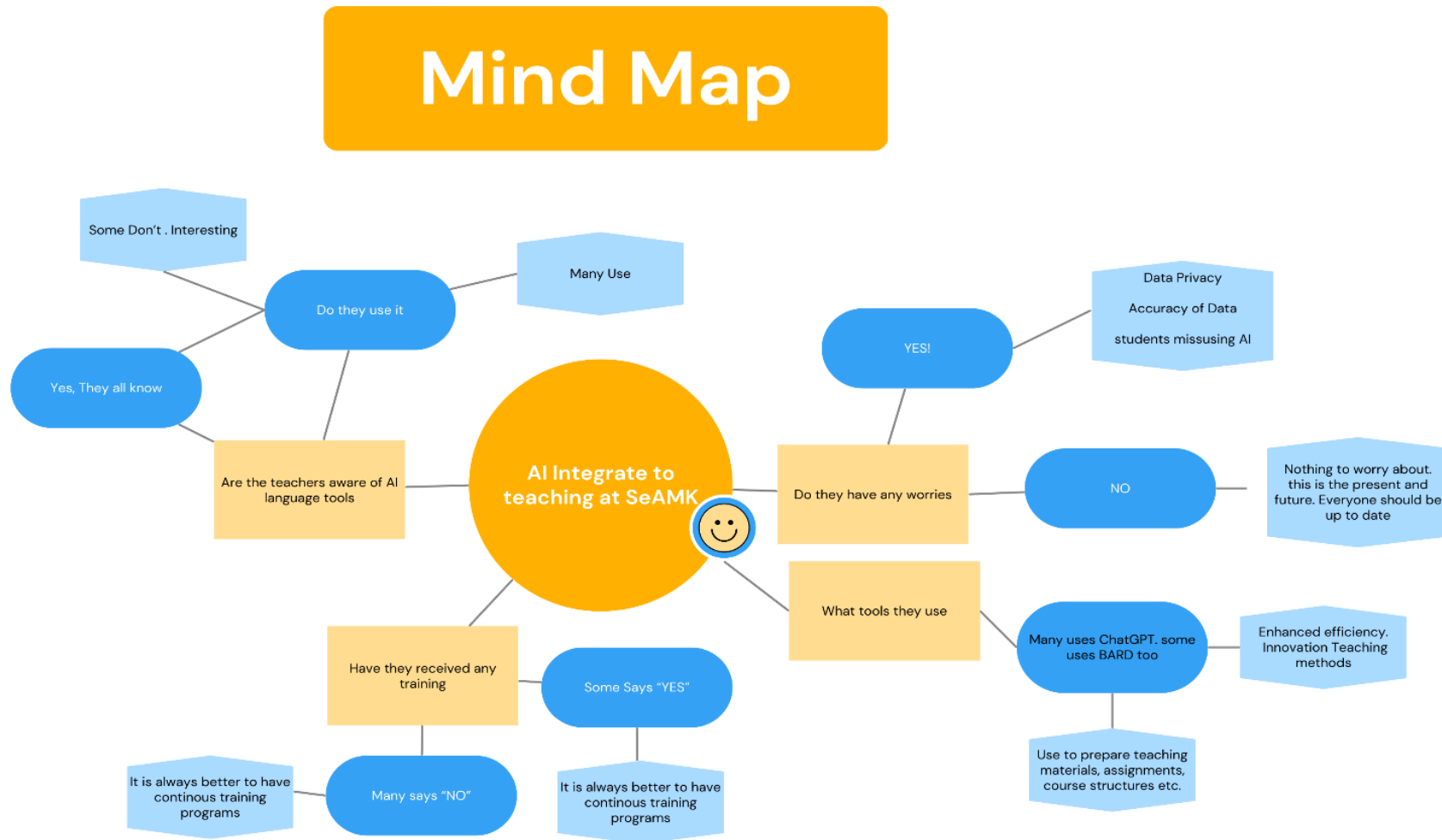


Figure 12. Mind Map.

4 DISCUSSION

In this section, I used the collected data from interviews and literature reviews to give my personal analysis about the study. My objective is to evaluate the research findings and interpret the correspondence between the research issue and the acquired outcomes.

As stated in chapter 3, I used thematic analysis to identify any themes in researched data. Based on the summary of research findings, several themes were identified regarding the use of AI in teaching tasks at SeAMK in Business and Nursing degree programs.

1. **Awareness and Familiarity with AI:** The interviewees showed a general understanding of AI and its availability, yet with differing degrees of familiarity with AI language models.
2. **Preference for Specific AI Tools:** Teachers have said that ChatGPT and Bard are their preferred options for teaching tasks including creating educational content, preparing lecture materials, and assisting with research activities.
3. **Reluctance and Concerns:** Interviewees who expressed reluctance or doubt regarding the use of AI did so for a variety of reasons, including worries about data privacy, accuracy, misinformation, and possible effects on the educational system and student learning.
4. **Lack of Comprehensive Training and Guidelines:** It was observed that SeAMK does not provide comprehensive instruction on AI integration, and there are inconsistent policies about the use AI tools and when to employ them. Even though AI is discussed almost everywhere, teachers, one of the key stakeholders of SeAMK are not clearly advised about the use of AI and has been kept as an option to Adopt AI or not kind of preference level. This is very crucial, considering the future of SeAMK's AI integration strategies.
5. **Utilization of AI in Professional Roles:** Many teachers integrated AI into educational activities, including assignment creation, test question generation, and

structuring educational article, highlighting the technology's capacity to improve teaching methods while time is effectively used.

6. **Widespread Adoption of AI in Personal Lives:** All respondents who were aware of AI language models confirm utilizing them for personal requirements, despite hesitations and conditions. This suggests that AI has been widely adopted in people's personal lives.

The findings from this study highlight several key themes regarding the integration of AI into teaching tasks at SeAMK in Business and Nursing degree programs. Firstly, it is evident that there exists a scale of awareness and familiarity with AI among the interviewed teachers. While some show a solid understanding of AI's significance in education, others display varying degrees of concern or limited knowledge. This scale of awareness aligns with the stages of innovation diffusion as theorized by Rogers' (2003) Innovation Diffusion Model, suggesting that the adoption of AI in educational contexts follows a curve from initial awareness to ultimate adoption.

Moreover, the preference for specific AI tools, such as ChatGPT and Bard, highlights the identified usefulness of these technologies among teachers. The widespread utilization of AI for tasks ranging from education content creation to research facilitation highlights its potential to enhance educational practices. This finding resonates with the Technology Acceptance Model (TAM), which suggests that users' perceptions of usefulness significantly influence their acceptance and usage of technology. However, it is remarkable that despite the perceived usefulness of AI tools, some teachers express reservations and concerns, particularly in fields like nursing where factual accuracy is important. These concerns repeat the examined barriers to the ease of use of AI tools, as outlined in TAM, indicating potential challenges in the widespread adoption of AI in educational settings.

Additionally, the study reveals a notable gap in comprehensive training and guidelines regarding the integration of AI into teaching practices at SeAMK. While some teachers recall briefings and presentations on AI, these efforts seem insufficient to provide a thorough understanding of AI tools and their applications. This lack of formal training aligns with the

literature on innovation adoption, which emphasizes the importance of adequate training and support mechanisms to facilitate the diffusion of innovations within organizations.

Furthermore, the reluctance expressed by some teachers towards the adoption of AI is accompanied by concerns regarding data privacy, misinformation, and the potential impact on the educational system and student learning. Quoting the teachers' own words like

“Students should be taught to understand the subject genuinely otherwise how they can make decisions in future.”

“We should guide the students to assess the information getting from AI before believing it”

“Nursing students should know to learn by heart as we are dealing with humans, not AI or machines” “Healthcare is something to do with emotions.”

clearly shows the teachers concerns over AI integrated to education. These concerns highlight the need for clear guidelines and ethical frameworks to govern the responsible use of AI in education, aligning with broader discussions surrounding the ethical implications of AI adoption.

In addition to the themes identified in the study, ethical considerations play a crucial role in the integration of Artificial Intelligence (AI) into teaching tasks at SeAMK and similar educational institutions. While AI offers tremendous potential to streamline educational processes and enhance learning experiences, its use raises complex ethical questions. The widespread availability of AI tools raises concerns about academic honesty and plagiarism. As teachers incorporate AI-generated content into their teaching materials, students may also turn to AI for assistance in completing assignments and coursework. While AI can serve as a valuable learning aid, there is a fine line between using technology to enhance understanding and relying on it to avoid academic challenges. The ease with which students can access AI-generated answers raises questions about the ethical boundaries of academic honesty and the responsibility of teachers to uphold academic integrity standards. While AI tools offer benefits in terms of personalized learning and accessibility, there is a risk that their adoption may increase existing gaps in educational outcomes. Students with greater access to AI technologies or better understanding of how to utilize them may have an unfair

advantage over their peers, widening the gap between high- and low-performing students. Addressing these ethical concerns requires a complex approach that prioritizes transparency, accountability, and ethical literacy. Educational institutions must provide clear guidance on the responsible use of AI tools, emphasizing the importance of critical thinking, academic integrity, and respect for academic property rights. Furthermore, a subject like AI literacy and ethics can be added to curriculums so that teachers and students can openly discuss as well as understand the implications and responsibilities associated with AI technologies, fostering responsible innovation and informed decision making. There is a heavy responsibility on educational institutions as well as for teachers to educate the students clearly about this subject. Teachers should be equipped with the knowledge and skills to effectively integrate AI into their teaching practices while upholding ethical standards and promoting a culture of academic honesty.

In conclusion, while AI holds promise as a transformative tool in education, its use must be guided by ethical principles and considerations. By acknowledging and addressing the ethical challenges associated with AI integration, educational institutions can take advantage of its potential to enhance teaching and learning outcomes while fostering a culture of integrity, equity, and responsibility in the digital times.

5 CONCLUSIONS

The integration of AI into teaching tasks at SeAMK in Business and Nursing degree programs has been the focus of this study, aimed at addressing the research questions regarding the influence of AI on teaching tasks, the ways teachers utilize AI, and the AI tools they employ for these tasks. Through a combination of interviews with teachers and a questionnaire distributed to all teachers in the business and nursing degree programs, this research has provided valuable insights into the current landscape of AI adoption in educational settings.

The findings reveal that AI has indeed made a notable influence on teaching tasks at SeAMK, with teachers accompanying AI tools such as ChatGPT and Bard for a variety of teaching tasks, including education content creation, lecture material preparation, assignment generation, and research facilitation. The majority of teachers have found AI to be useful in enhancing their teaching practices, citing benefits such as increased efficiency, productivity, and access to personalized learning resources. However, it is important to note that some teachers expressed concerns and reservations regarding the ethical implications, accuracy, and reliability of AI tools, particularly in fields like nursing where accuracy is crucial.

The integration of the Innovation Diffusion Model and the Technology Acceptance Model (TAM) into the literature review provided a theoretical framework for understanding the adoption and acceptance of AI in educational contexts. The study findings align with these models, demonstrating a progression from awareness to adoption among teachers, influenced by perceptions of usefulness and ease of use. Moreover, from the researched data, the identified themes through thematic analysis emphasize the importance of addressing ethical concerns, providing adequate training and support, and promoting a culture of responsible AI usage in education.

In conclusion, this study contributes to the strengthening supply of literature on AI adoption in education, offering insights into the opportunities and challenges associated with its integration into teaching tasks at SeAMK. Moving forward, future research in this area could explore the long-term implications of AI adoption on teaching and learning outcomes,

investigate strategies for addressing ethical concerns and promoting ethical AI usage, and examine the role of AI in fostering inclusive and unbiased educational practices. By continuing to explore these research avenues, educational institutions such as SeAMK can harness the potential of AI to enhance teaching and learning experiences while ensuring ethical and responsible usage in the digital times.

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Appendix: Questionnaire

1. Do you know about AI Large language models? For example, Chat GPT, GPT 3, Bard, etc.?
2. Have you used any model personally?
3. Have you applied any model in your workplace?
4. Which app or software do you use at work? Why are you using that app/software?
5. Which tasks have you been able to automate/eliminate/optimize by using an AI language model?
6. How would you otherwise describe the use of LLM in your work? If you don't use it.
7. Have you received any training from SeAMK related to the use of AI?
8. Have you received any guidelines about use of AI from SeAMK?
9. What is your personal view about AI, overall. Is there anything you wish to comment?