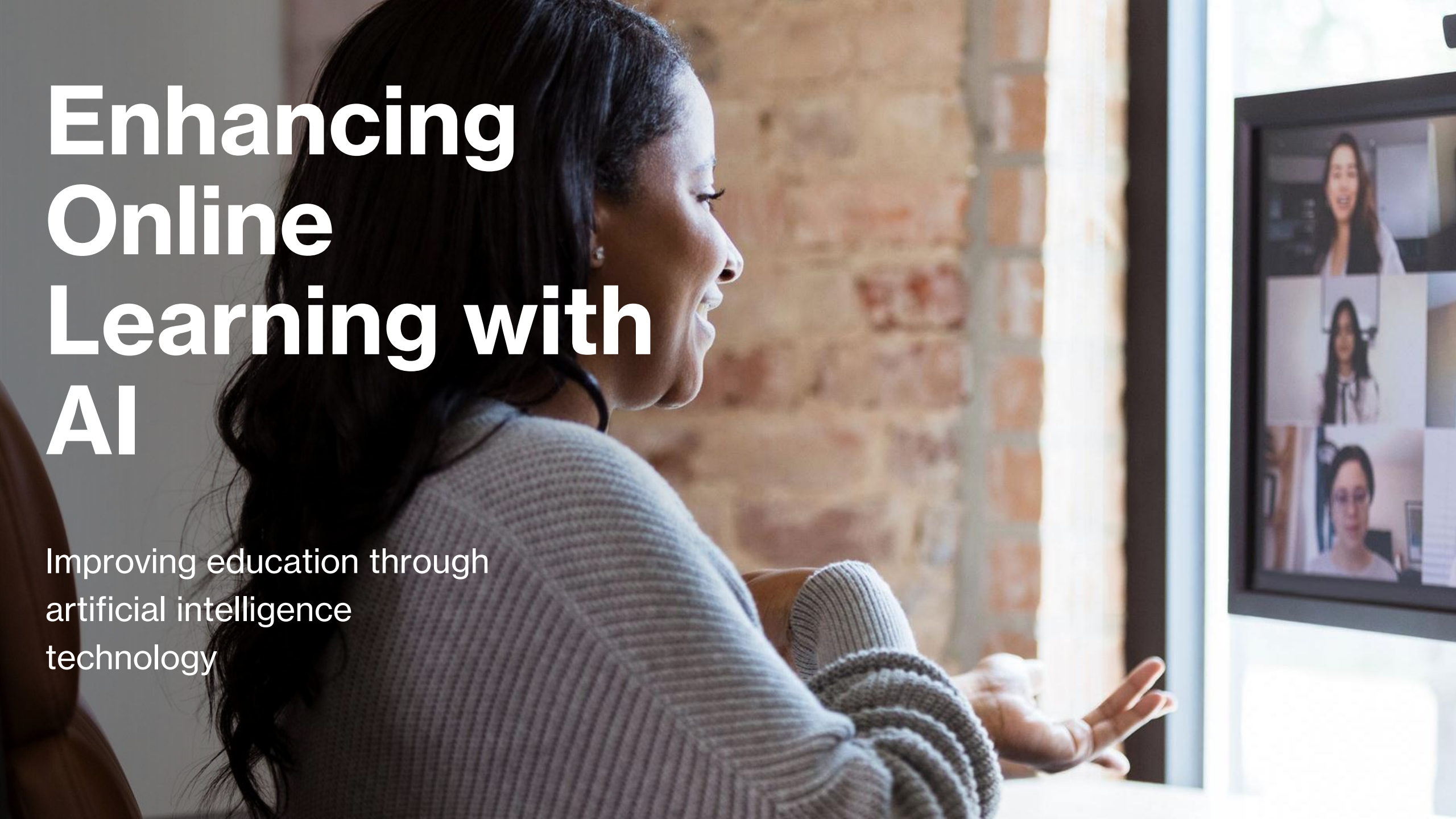
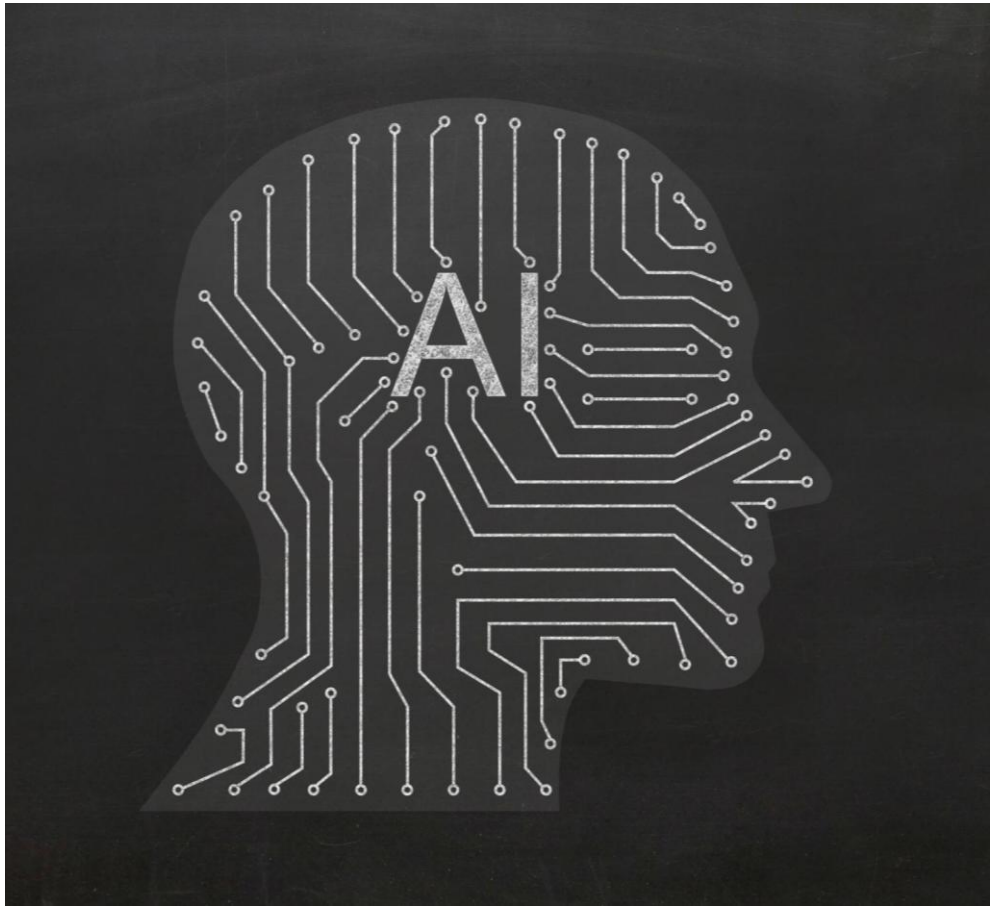


Enhancing Online Learning with AI

Improving education through artificial intelligence technology

Agenda for Today's Presentation



- Background on Technology Skills Gap
- Current State of Online Learning
- Technology Skills Gaps in Education
- Digital Capacity and Transformation
- AI in Education
- Importance of Addressing the Technology Skills Gap
- UCCI AI and Online Training Programs
- Methodology
- Findings and Discussion
- Recommendations

Background on Technology Skills Gap

Challenges in Transition to Online Learning

Technology Skills Gap

The rapid shift to online learning revealed a significant technology skills gap among educators, hindering effective teaching.

Quality of Education

The transition to online learning sometimes compromised the quality of education received by students, impacting their learning outcomes.

Faculty Resistance

Many faculty members faced resistance to adopting online teaching methods, stemming from their lack of experience and comfort with technology.

Differences in Learning Modalities

Educators often failed to recognize the differences in student engagement and learning approaches between online and face-to-face instruction.

Impact on Students

Digital Skills Importance

Digital skills and access to technology are crucial for effective learning and teaching processes today.

Connectivity Challenges

Many learners face disadvantages due to unstable internet connectivity and unequal access to educational resources.

SUCCESS FACTORS

Innovative Teaching Methods

Success in online learning requires lecturers to be innovative in course design and delivery methods.

Guidance and Support

Providing guidance and support to students is essential for reducing academic stress and ensuring success.

Current State of Online Learning

Growth and Challenges in Online Education

Impact on Higher Education (Kentor 2015, Palvia, et al, 2019)
Online learning has significantly transformed the landscape of distance education, impacting higher education on a global scale.

Advantages of Online Programs (Palvia, et al, 2019)

Online education offers numerous advantages including increased profits, reduced costs, and extended outreach for universities.

Challenges in Implementation (Alikhan, & Sritharan, 2024, Kentnor, 2015)

Institutions face various challenges in implementing online learning, such as the digital divide (access and limited digital competency and skills) and lack of understanding of online teaching methods.

Technology Skills Gaps in Education

Digital Literacy and Training Needs

Technology Skills Gap (OECD Digital Education Outlook. 2023)

There is a significant gap in technology skills among educators, impacting effective teaching and learning in digital environments.

Importance of Digital Literacy (Masenya, 2021)

Digital literacy is essential for educators to utilize AI tools effectively and enhance student learning experiences.

Continuous Training Needs (Oxford University Press Report, 2021)

Adopting a culture of continuous training helps educators stay updated with digital technologies and teaching methodologies.

Bridging the Digital Divide(OECD Digital Education Outlook. 2023)

Investments in resources and infrastructure are necessary to bridge the digital divide (access and limited digital competency and skills) and ensure equitable access to technology.

Digital Capacity and Transformation

Adoption of Smart Technologies

Digital Disruption Readiness (World Economic Forum, 2023)

While 87% of companies acknowledge digital disruption, only half feel prepared to navigate these changes effectively.

Challenges in Digital Education (Grajek and Reinitz, 2019)

Many educational institutions faced significant challenges in adopting digital education due to low digital capacity, causing learning gaps.

Investment in Digital Infrastructure (Gkrimpizi, Peristeras, & Magnisalis, 2024)

Romania's Recovery and Resilience Plan allocated funding for digitization, focusing on educational technology and resources.

Future of Teaching Methods (Melnic, 2023)

The European Union's Digital Education Action Plan aims to enhance digital teaching methods and resources for future education.

AI in Education

Benefits of AI Integration

Personalized Learning (Milicević, Lazarova & Pavlović, 2024)

AI enables personalized and adaptive learning experiences for students, catering to their individual needs and preferences.

Enhanced Teaching Tools(Milicević, Lazarova & Pavlović, 2024)

Teachers can utilize AI data analysis tools to improve their teaching strategies and student engagement.

Support for Special Needs (Mariam, Adil, & Zakaria, 2024)

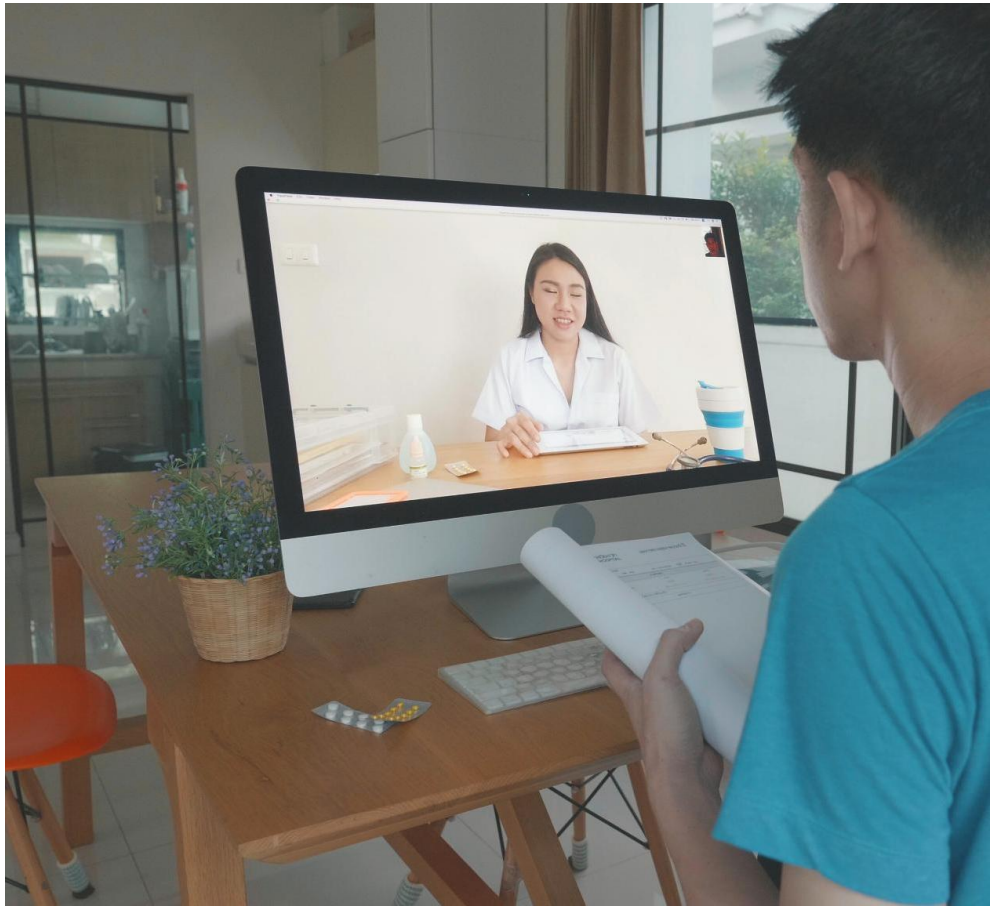
AI integration in education provides tailored opportunities for learners with special needs, ensuring inclusivity.

Teacher Training and Development (Mariam, Adil, & Zakaria, 2024)

Successful AI integration requires continuous professional development and training for teachers to effectively use AI tools.

Importance of Addressing the Technology Skills Gap

Technological Advancements and Training Needs



Impact of COVID-19

The COVID-19 pandemic has transformed education, accelerating the adoption of online learning and digital resources.

Technological Skills Gap

Addressing the technological skills gap is essential as online education reshapes teaching and learning methodologies.

Growth of Online Education

Online education has become integral to university offerings, providing access to a broader range of learners.

Global Trends in Education

Countries worldwide are experiencing significant growth in online education and emphasize training for educators.

UCCI's Shift to Online Learning

Transition to Online Learning

UCCI's rapid shift to online learning was driven by the COVID-19 pandemic, requiring quick adaptations in teaching methods.

HyFlex Course Delivery

HyFlex course design allows students to participate either in-person or online, enhancing flexibility in learning.

Stakeholder Impact

The shift has led to discussions among stakeholders requesting more online programs and varied learning preferences.

Future Objectives

UCCI aims to equip faculty for online teaching and utilize AI to enhance technology skills in education.

AI & Online Training Programs at UCCI

Courses Offered for AI Training

AI For Everyone Course

This course by Coursera introduces the basics of AI to all faculty members, ensuring foundational understanding.

AI for Educators Guide

The Essential Guide for Educators provides tailored information on integrating AI into teaching practices.

Microsoft AI Training

The Microsoft Learn AI training includes modules that enhance teaching and learning with AI tools like Copilot.

Ethics and Generative AI Course

This course from EdX covers the impact, ethics, and issues surrounding generative AI technologies.

Quality Matters Teaching Online Certificate

- Technology Skills Self-Assessment
- Evaluation of Course Design
- Policy Awareness
- Orienting Learners
- Connecting Learning Theories to Teaching Strategies
- Creating Presence
- Learner Assessment

Methodology

Case Study on AI Training at UCCI

Aim

The aim of this case study was to explore how the business and finance faculty at UCCI is using the AI and online training in their transition to online learning.

AI Training Implementation

UCCI implemented AI training for faculty to enhance their online teaching capabilities, focusing on technology integration.

Quality Matters Certification

The Quality Matters Online Teaching Certification was piloted to improve online course delivery among business and finance faculty.

Purposeful Sampling Method

Six faculty members (3 FT and 3 adjuncts) were intentionally selected to provide insights (interviews) into their use of AI tools in online teaching.

Findings and Discussion

Interview Insights on AI Use

Faculty AI Tool Usage

The study explored how frequently faculty members use AI tools and which tools they find most effective in their teaching.

Training Needs and Confidence

Insights were gathered on the types of training that helped boost faculty confidence in utilizing AI effectively in teaching.

Personalizing Learning Experiences

The interviews aimed to understand faculty perspectives on using AI to tailor learning experiences for diverse student needs.

Concerns About AI in Education

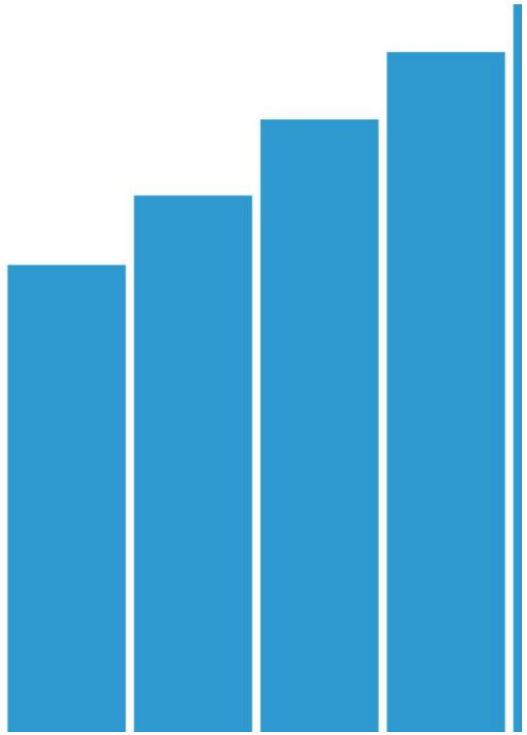
Respondents shared their main concerns regarding AI usage in education and its potential impact on the role of teachers.

Collaboration among Educators

Impact on Teaching & Learning, Assessment and Feeback

Equity and Access

Current Usage of AI Tools



Frequency of AI Tool Usage

Respondents use AI tools daily or weekly, with some still hesitant to adopt them fully. Training has improved understanding, but concerns remain.

ChatGPT Adoption

ChatGPT has the highest usage among respondents, emphasizing the need for educators to guide students in its ethical use.

Learning Management Systems

All respondents utilize Learning Management Systems, particularly Blackboard Ultra, enhancing their ability to analyze student performance.

Benefits of AI Tools

AI tools enhance teaching efficiency, allowing educators to focus on lesson planning and providing personalized feedback to students.

AI Tools currently used by Faculty

- Microsoft Designer, Clipchamp, and PowerPoint Designer –create engaging presentations
- Copilot/ChatGPT –to assist students in brainstorming their ideas. Generate content and structure their projects.
- Microsoft Editor is an AI-powered service – assist with writing (grammar, spelling)
- Language translation tools -The Translate feature is available in Word, Excel, OneNote, Outlook, and PowerPoint.

AI Tools currently used by Faculty

- Learning Management Systems like Blackboard Ultra used to analyze student performance and enhance teaching efficiency
- Teams – live captions (can select language and speech – live translated captions)
- Kahoot -game-based quiz platform
- Padlet: Padlet is a collaborative online whiteboard
- Canva - A graphic design tool

https://www.youtube.com/watch?v=9t4FS-uDUU8

Training Needs for Effective AI Integration

AI in Assessment Training

Training in AI assessment tools is crucial for educators to effectively evaluate student performance and improve learning outcomes.

Hands-On Workshops

Hands-on workshops on AI basics and specific tools can empower educators to integrate AI seamlessly into their teaching practices.

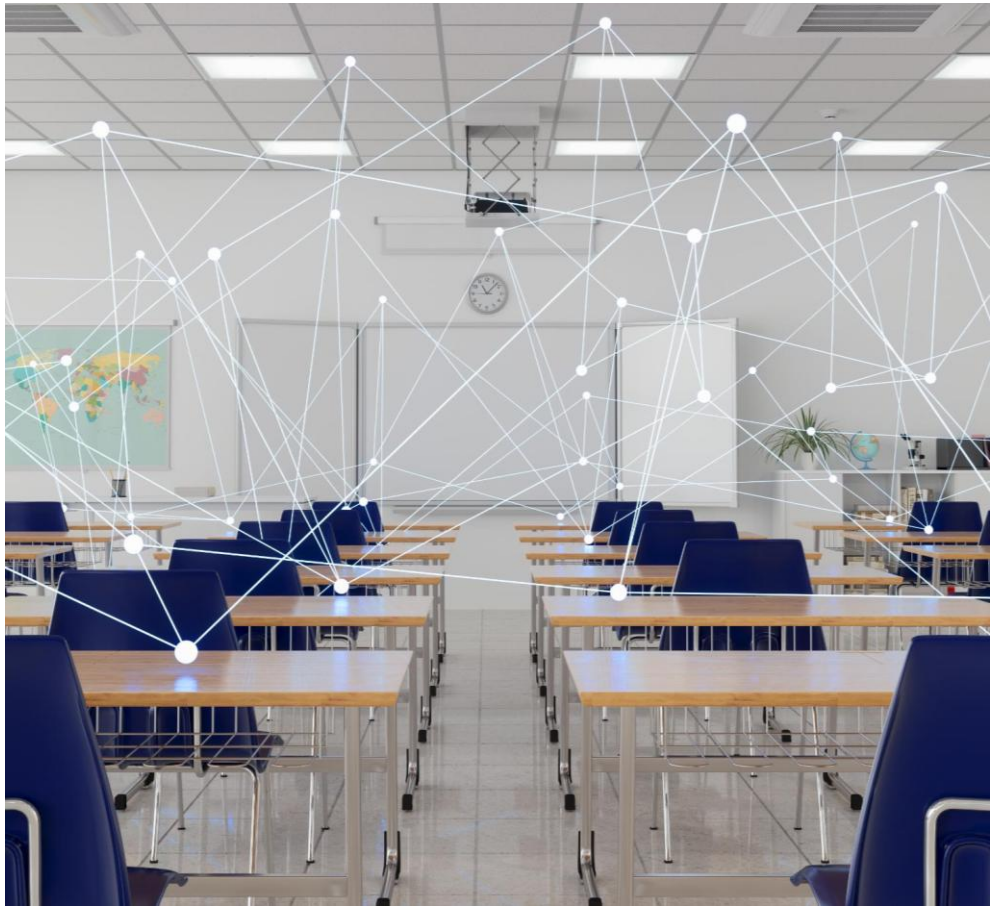
Ethics in AI Use

Training on the ethical application of AI is essential to ensure that educators can guide students in responsible usage of AI tools.

Subject-Specific Training

Subject-specific AI training is needed to cater to the diverse educational needs and enhance subject matter teaching.

Enhancing Student Engagement with AI



Personalized Learning Experiences

AI can tailor learning experiences to meet individual student needs, enhancing engagement and participation.

Interactive Assessments and Gamification

Utilizing interactive assessments and gamification techniques fosters a more engaging online learning environment.

Collaborative Learning Platforms

AI facilitates group work and discussion forums, encouraging collaboration among students in online classrooms.

Enhanced Creativity with AI

AI tools can enhance student creativity through illustrations, videos, and interactive content in lessons.

Personalisation of Learning Experiences

Tailored Learning Experiences

AI customizes educational content based on individual student abilities, ensuring effective learning for everyone.

Support for Special Needs

AI identifies and caters to special educational needs, moving beyond a one-size-fits-all approach.

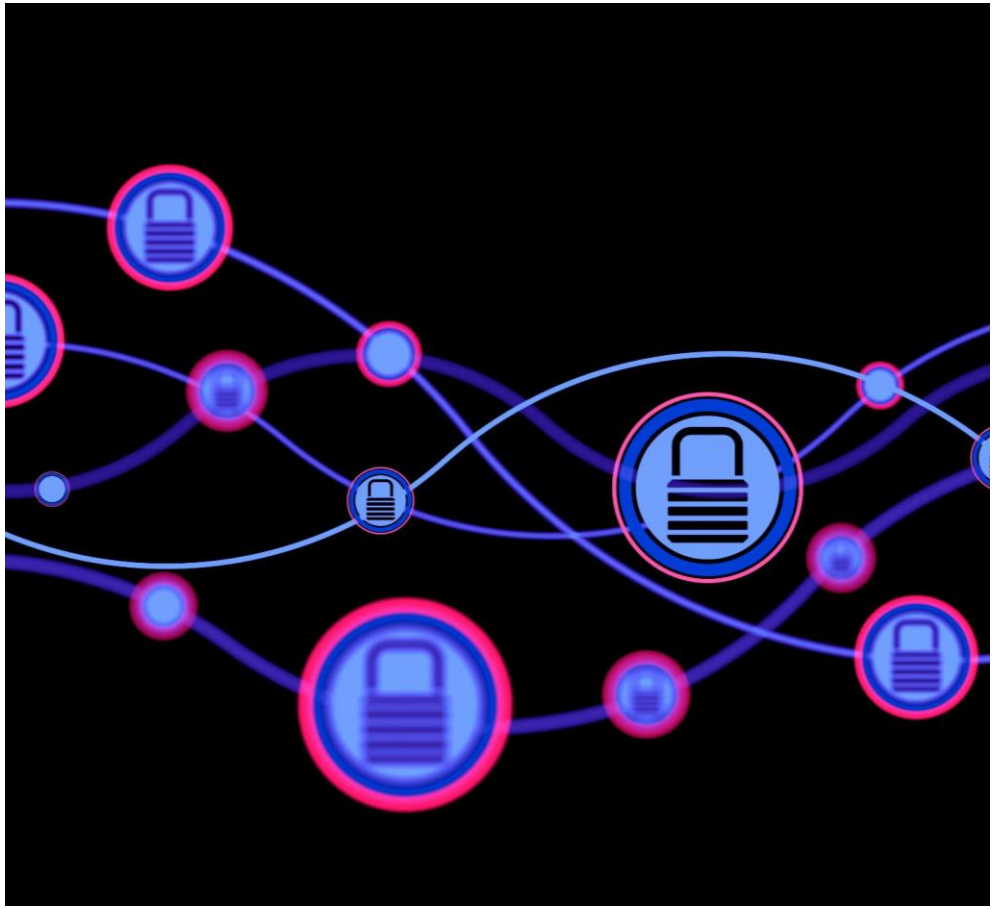
Real-Time Feedback

AI provides immediate feedback to students, enhancing engagement and helping teachers offer timely support.

Accessibility Tools

Tools like speech transcription and translation services make learning accessible for all students.

Challenges and Concerns with AI



Data Privacy Risks

AI in education raises significant data privacy concerns, risking sensitive student information being collected and misused.

Security Concerns

The risk of AI systems being hacked poses serious security threats, potentially exposing student data.

Potential Biases

AI can unintentionally reflect biases in data, leading to unfair treatment and outcomes for students.

Dependence on Technology

Increasing reliance on AI may diminish personal interaction between teachers and students, reducing critical thinking.

Collaboration Among Educators

Sharing Best Practices

Educators can collaborate by sharing best practices and resources for effectively using AI in their teaching environments.

Mentoring Programs

Mentoring programs allow experienced educators to guide colleagues in utilizing AI, enhancing professional growth and skill development.

Interactive Professional Development

Interactive professional development sessions facilitate discussions on AI usage and the sharing of innovative teaching strategies.

Community Support

Building a supportive community fosters networking, allowing educators to learn from each other's experiences with AI in the classroom.

Impact on Teaching and Learning

AI's Role in Personalized Learning

AI provides personalized insights, allowing teachers to focus on tailored instruction that meets individual student needs.

Impact on Teacher-Student Relationships

AI can enhance teacher-student relationships, enabling more engaging lessons and one-on-one interactions.

Ethical AI Use in Education

With increased AI usage, teaching ethical use of AI tools becomes essential for fostering meaningful learning.

Challenges of AI Dependence

Some believe AI reliance may diminish real teacher-student interactions and hinder personal connections.

AI in Assessment and Feedback

Automated Grading

AI can quickly grade tests and essays, offering instant results to students, streamlining the grading process.

Personalised Feedback

AI analyzes answers to provide tailored feedback, helping students identify their strengths and weaknesses.

Real-Time Assessment

AI tools assess performance during activities, giving immediate feedback for timely learning adjustments.

Data Analysis in Education

AI tracks student performance trends, helping educators identify struggling areas and adjust instruction effectively.

Ensuring Equity and Access to AI Tools

Infrastructure Support

Government, industry, and community collaboration is essential for building infrastructure that supports access to AI tools for all students.

Access to Devices

Educational institutions should provide necessary devices like laptops or tablets to ensure students can access AI resources effectively.

Training for Educators

Training teachers to effectively use AI tools is crucial for ensuring all students benefit from educational technology.

Open-Source AI Platforms

Encouraging the use of open-source AI platforms ensures equitable access to quality learning tools for all students.

Future Opportunities with AI

Personalized Learning Experiences

AI's evolution will provide personalized learning experiences tailored to each student's unique needs and preferences, allowing them to learn at their own pace.

Gamification in Education

AI-driven gamification tools will make learning enjoyable and engaging, motivating students to develop essential tech skills through interactive activities.

AI Tutors and Assistants

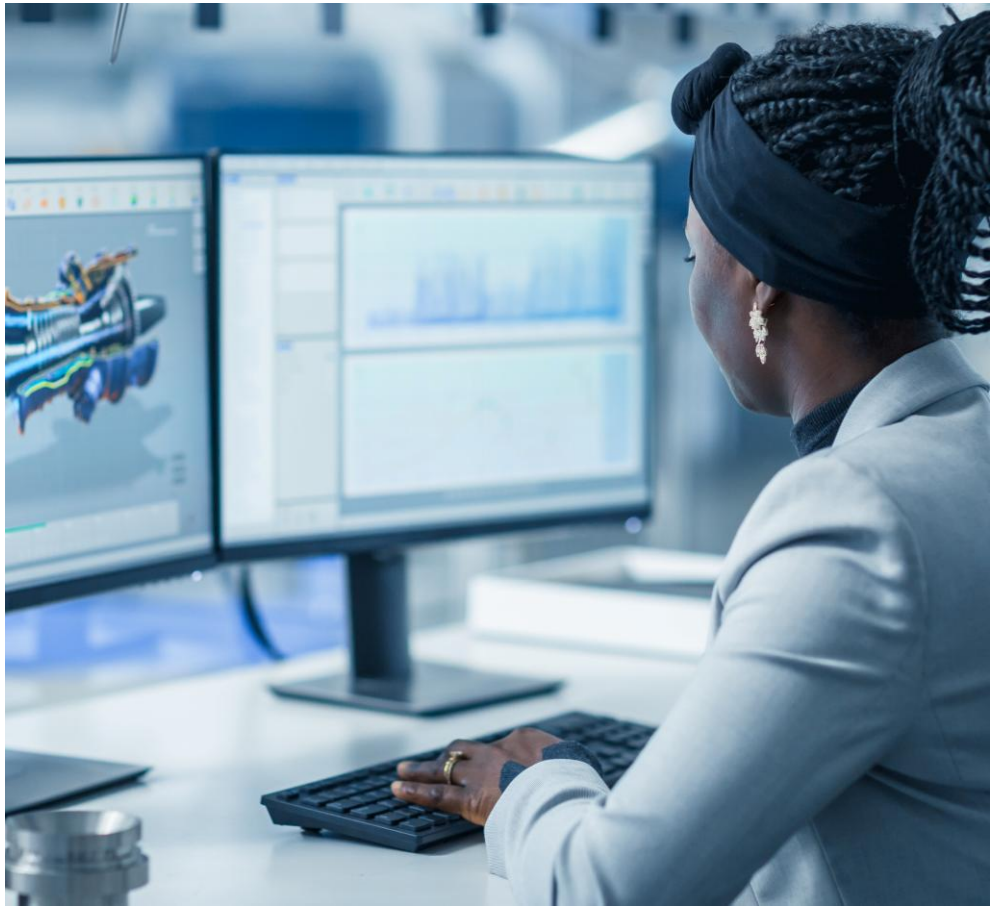
AI can serve as tutors and assistants, providing real-time support and guidance, greatly enhancing the educational experience outside classroom hours.

Enhanced Analytics for Education

AI tools will analyze student performance more effectively, enabling educators to tailor their instruction and interventions based on specific needs.

Recommendations

Improving Pedagogical Skills with AI



AI Enhancing Pedagogy

AI technologies can significantly improve faculty pedagogical skills, enhancing both teaching quality and student engagement.

Structured Training Programs

UCCI's structured training programs are essential for developing qualified teachers who can effectively use AI tools.

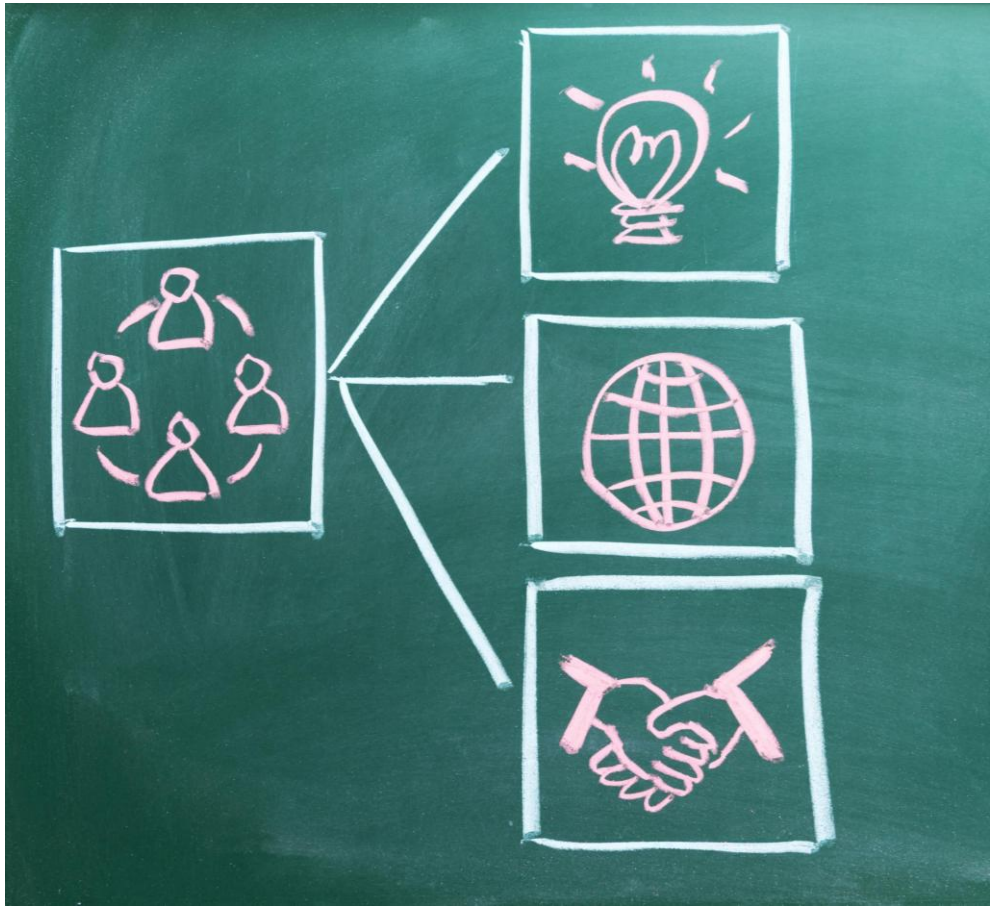
AI Policy Development

Establishing clear policies for AI integration is crucial for effective implementation and safeguarding sensitive information.

Continuous Evaluation

Regular evaluation of AI integration progress ensures successful implementation and continuous improvement in educational practices.

Suggestions for Future Research



Bridging Technology Skills Gap

Future research should focus on identifying strategies to bridge the technology skills gap using AI in online learning.

Faculty Data Collection

Conducting a comprehensive study on faculty who have participated in AI training will provide valuable insights for decision-making.

Interdisciplinary Collaboration

Research should explore collaboration among educators, policymakers, and stakeholders to design effective AI solutions.

Teacher Training Strategies

Investigating successful strategies used by institutions to enhance educators' digital literacy is crucial for bridging the skills gap.

Thank You!

- We appreciate your attention and participation.
- Your feedback is valuable for our improvement.
- Looking forward to future discussions and collaborations.

Contact me at bblessitt@ucci.edu.ky and/or linkedin.com/in/dr-belinda-blessitt-vincent-5a721a30

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Interview Questions

Now that you have completed your training in Online Teaching and AI,

1. How often do you currently use AI tools in your teaching practice? Which specific tool/s have you found most effective?
2. What AI Tools are you using and which specific have you found to be more effective?
3. Are you more confident in integrating AI in your online classroom? If not, confident, what kind of training or professional development would help you feel more confident in integrating AI into your online teaching?
4. How are you using AI to enhance student engagement and participation in online classes? Are there other ways AI can be used to enhance student engagement and participation?
5. How are using AI to personalize learning experiences for your students? Do you believe that there are other ways AI can help personalize learning experiences for students with diverse needs and skill levels?
6. What are your main concerns about using AI in education, particularly regarding data privacy, security, and potential biases?
7. How do you share and collaborate your AI practices with other colleagues? Are there other ways to collaborate to share best practices and resources for effectively using AI in our online teaching?
8. How has AI changed your role as a teacher? Do you see AI changing the role of teachers in the future? Do you think it will enhance or diminish the teacher-student relationship?
9. How can AI be used to improve the assessment and feedback process for students in an online learning environment?
10. What measures are you taking or can be taken to ensure that AI tools are accessible to all students, regardless of their socioeconomic background?
11. What future AI developments are you most excited about, and how do you think they could further bridge the technology skills gap in education?