8th edition

EADTU

2024 Envisioning Report

exploring **new modes of teaching & learning** for empowering universities

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Skills Acquisition
MOOCs
Learning Analytics

Immersive learning
Sustainability
Open Pedagogy

OER
Student Engagement
Remote laboratories

Co-funded by
the European Union

Editing, logistics and lay-out
George Ubachs and Stefan Meuleman
European Association of Distance Teaching Universities (EADTU)

Published by
European Association of Distance Teaching Universities, The Netherlands
Parkweg 27, 6212 XN Maastricht.

Suggested citation
EADTU. (2024, June) The Envisioning Report for Empowering Universities. (nr. 8). DOI: 10.5281/zenodo.11653241

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Contents

Foreword

We herewith present to you the eight edition of the EMPOWER Envisioning report.

The report is set up by the expert pools of the Empower programme (empower.eadtu.eu) established by EADTU to cover the latest trends and developments in new modes of teaching. Most and foremost not by copying on-campus education, but by using new modes of teaching and enhancing education by

- building on expertise and experience
- methodologically designed education
- well-considered digital didactics (research based)
- interaction, debate and dialogue, done synchronously and asynchronously
- activating education and engaging students

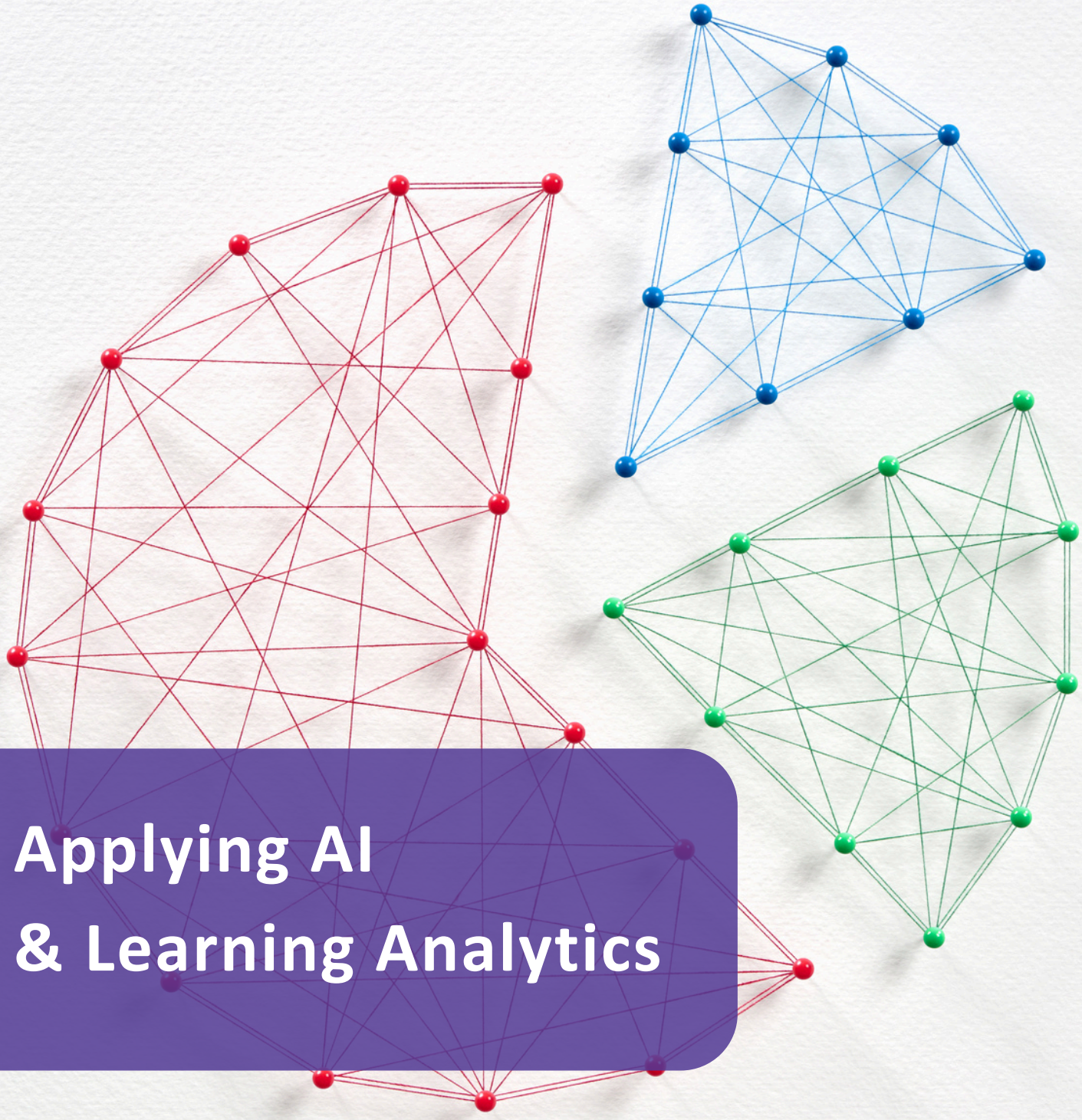
With the EMPOWER Envisioning report we aim to inspire fellow experts in innovating education by examples from practice. New modes of teaching and learning create new opportunities to enhance the quality of learning experiences on campus programmes, reaching out to new target groups off campus and offering freely accessible online courses.

They enhance the quality, visibility and reputation of the institution. They all work in all relevant areas for the development of new modes of teaching and learning. EMPOWER is further supporting individual universities by on-site expert seminars with free independent advice, onsite and online seminars, guidance for university leaders, expert panels for targeted reviews and, support for whole of institution initiatives.

In this 8th edition we cover initiatives related to: **Applying AI and Learning Analytics**, **Enhancing Engagement and Support**, **Optimizing cross-institutional Studies** and **Innovating Skills and Competencies.**

We believe this 2024 edition will inspire many to further innovate in education and foster cooperation and sharing of expertise among fellow innovators.

George Ubachs
Managing Director EADTU



Applying AI & Learning Analytics

Artificial Intelligence in Learning Organisations: Reshaping Roles and Pedagogical Processes

José Bidarra[1] and Cláudia Neves[1]

[1] LE@D, Universidade Aberta

Abstract

Recent advances in Artificial Inteligence (AI) enable organisations to support particular training and learning strategies, empowering people to advance their careers, enabling data-driven decision-making, and assuring that learning is a continuous and interesting process. According to current research, AI is a great tool for learning in organisations because it makes instructional materials easier to prepare and supports students' growth in a variety of ways. However, it appears that a particular approach to AI pedagogy is required, one that emphasises the cognitive processes rather than the reproduction of content. AI technology will become even more important in determining how learning and development are conducted in the future.

Keywords: *AI in Education, Pedagogy, Learning Organisations*

Introduction

This account of previous research aims to address this general question: How do Artificial Intelligence (AI) applications change roles and pedagogical processes in organisations? It seeks to provide a brief discussion of the current AI transformation in terms of pedagogical and technological applications for learning.

The science and practice of learning have changed over the years in the field of training and development. The field's evolution and increasing significance are reflected in the research focus on training and development in organisations. Being dynamic, learning organisations place a high priority on ongoing learning, growth, and adaptation as part of their basic principles. Although the idea of a learning organisation has many advantages, it is not without difficulties. There are several challenges that organisations must overcome in their quest to become learning organisations. For instance: cultural resistance, learning overload, lack of engagement, resistance to change, and insufficient and inadequate learning infrastructures.

Artificial intelligence (AI) has become a disruptive force in organisational learning, changing how people access, interact with, and gain from learning materials. The integration of AI technologies into learning organisations presents a plethora of opportunities and challenges due to the multifaceted impact of AI on learning, which extends to both formal and informal settings.

One of the opportunities relates to the significance of customised learning environments and AI's capacity to design unique learning trajectories for each person, boosting engagement and memory retention. In their 2014 study, Baker & Siemens investigate how students can benefit from personalised learning experiences through the use of data mining and learning analytics, which are fueled by AI. Their research offers insightful information about how artificial intelligence can be used to customize learning opportunities to meet the needs of specific students. They highlight how artificial intelligence (AI) can make learning experiences more efficient and interesting by analysing data, modifying content, and offering real-time feedback.

Within the framework of Higher Education, where most research takes place, two primary problems need to be addressed: (1) Like other digital technologies, current AI tools are primarily perceived and utilized as tools, hiding their fundamental role as a component of human perception and experience (Hillman & Säljö, 2016; Malafouris, 2013; Säljö, 2019); and (2) prevalent pedagogical approaches indicate a uniformising nature, typically focused on the teacher, implying a narrow perspective of instruction that ignores other forms of learning located beyond these confining boundaries (Pargman, 2019; Selwyn et al., 2020).

The impact of AI

The personalisation of learning (Baker & Siemens, 2014), accessibility of education (Holmes, Bialik & Fadel, 2023), enhancement of skill assessment (Meyer, 2022), and support of data-driven decision-making (Siegel, 2013) are just a few examples of the enormous potential of artificial intelligence. These advancements offer educators and organisational leaders a strong platform to leverage AI's transformative potential in learning environments as it continues to progress.

Advanced algorithms enable AI systems to examine a person's performance, preferences, and learning history to provide personalised learning routes. People will be more engaged and retain more information if they receive training and content that is specifically tailored to their needs, thanks to this personalisation.

However, regardless of the intended effects, technology frequently amplifies effects on education (and learning), as noted by Roschelle, Lester, and Fusco (2020). It is critical to reconsider how human intelligence—that is, educators, leaders, decision-makers, and learners—fits into the learning processes while using AI tools to be ready for unforeseen consequences. For example, trainers and educators must modify their pedagogical approaches to accommodate AI technologies, with focus on the cognitive processes rather than the reproduction of content. However, they should also investigate the transformative potential of AI in education as a means of revolutionising learning procedures, rendering them more effective, customised, and influential for individuals and institutions alike.

A vast range of use cases for generative AI in organisations, including software development and testing, memos, essays, business letters, and contracts, have been demonstrated by ChatGPT's recent global and extensive transformation (Reed, 2022, Tung; 2023). Nonetheless, it has also sparked a renewed discussion about more conventional human endeavours by bringing up a number of issues about the challenge of differentiating between human and AI authorship in academic circles (Else, 2023; Stokel-Walker, 2023). These issues come from the possibility that ChatGPT and other similar technologies, like Bard, Gemini and Claude, could have both beneficial and detrimental effects on the society in which we live. For this reason, care must be taken while using the technology.

Learning with AI

It is imperative that students comprehend that they are essential to the advancement and utilisation of artificial intelligence in multiple capacities. Through their interactions with digital learning materials, online courses, and educational platforms, learners generate data that is utilised by AI. The quality of AI-driven educational products can be enhanced and AI algorithms trained with the help of this data, which includes performance and user behaviour data. So, learners can impact the continuous development of AI systems in education and offer insights about what works and what doesn't. They can subsequently collaborate with instructors and content producers to design learning resources that are enhanced by AI.

But it's crucial to recognise that as AI continues to change education and training, students must learn how to think critically and become aware of the biases, limitations, and ethical issues surrounding AI. With this knowledge, learners can utilise AI technologies responsibly and participate intelligently in conversations regarding the technology during the learning process (Gašević, Siemens, & Sadiq, 2023).

AI has the ability to improve and optimise pedagogical processes by providing new tools and capabilities that can be advantageous to all the stakeholders involved: leaders, educators, instructors, trainees, and students in general. Therefore, the connection between pedagogy and AI in this context must be one of collaboration and augmentation. However, ethical, privacy, and equality issues must be carefully considered in order to apply AI in a responsible and successful manner. Regulation and careful thought must be given to the ethical and sociological issues raised by the use of AI in education and training. To fully realise the promise of these revolutionary technologies, leaders and legislators play a key role in assuring the ethical integration of AI in learning organisations.

Conclusion

Current research demonstrates that AI is a great tool for learning in organisations since it facilitates the creation of didactic materials and advances training in a variety of ways. The use of AI cannot be reduced to a mere form of "cheating", when it comes to instruction and learning, because it has very positive outcomes, for instance, constructing summaries, providing examples, designing simulations, and fostering practice. Furthermore, it turns out that in order to function in the workplace, and as productive members of our society, everyone needs to develop AI literacy. However, this should always be pursued with a critical eye and following a humanistic perspective.

The autonomy and capacity for reasoned decision-making may be impacted by the improper application of AI in learning organisations. So, the application of AI must be balanced with the demands of successful learning and critical thinking. To that end, we provide the following six recommendations:

	Recommendations	Stakeholders
1	Highlight the valued role of human instructors	Leaders, Instructors
2	Provide technical and pedagogical support to instructors	Leaders, IT Staff, Instructors
3	Associate AI tools with an accepted pedagogical model	Instructors, Learners
4	Design and deliver instruction using ethical AI principles	Instructors, Learners
5	Address issues of safety and privacy of AI use	Leaders, IT Staff, Instructors
6	Notify users of specific guidelines and precautions	Leaders, IT Staff

Lastly, in contradiction with many unenthusiastic views, we believe that AI plays a revolutionary role in learning within organisations. It guarantees that learning is a continuous, interesting activity, gives people the ability to advance their abilities, and enables organisations to make decisions based on facts. Thus, AI technology is poised to become increasingly more influential in the future of training and development within organisations.

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