

Supporting Instruction and Learning Through Artificial Intelligence

A Survey of Institutional Practices & Policies

Judith Sebesta

Principal, Sebesta Education Consulting LLC

Van L. Davis

Chief Strategy Officer, WCET



Table of Contents

- Recommended Citation and License 1
- About WCET 1
- Table of Contents 2
- Introduction 3
- Definitions 4
- Key Findings and Insights 6
- Institutional and Respondent Identities 8
- Support, Incentives, and Training 15
- Strategy, Planning, and Policy 18
- Challenges and Benefits 21
- Recommendations 24
- Conclusion 26
- Appendix: Survey Instrument..... 28
- References 35

Introduction

To say that Artificial Intelligence (AI) is having a moment might be an understatement. Although its utilization for various purposes in education is not new, Generative AI (e.g., ChatGPT) has recently sparked provocative conversations, excitement, skepticism, and even fear about how it might impact higher education. As Van Davis, contributing author, states in, "[WCET Primer for Higher Education: General Brief on Generative AI](#)," this technology "will have a significant impact on faculty, staff, administrators, and students as they all try to understand the role of AI in higher education" (Davis, 2023).

Artificial Intelligence in general poses numerous challenges for educators and students alike, such as academic integrity, lack of knowledge and training, misinformation, and implementation costs. However, AI also presents opportunities to support equity and access, increased efficiency, new understandings of (and urgency around) digital literacy and crucial workforce skills, and improved instruction and learning, among others. There is still so much to learn about these challenges and benefits, both existing and potential. And ultimately, AI calls into question the very nature and definition of education itself.

"The bigger question is – the big question is – what is learning in this environment? That's the big, existential, but very practical, question."

- John Opper, Executive Director, Distance Learning and Student Services, Florida Virtual Campus

In April 2023, WCET - the WICHE Cooperative for Educational Technologies, undertook a national survey to ascertain how and why postsecondary institutions are using Artificial Intelligence to support instruction and learning, what policies are in place, and what are the perceived barriers to, and benefits for, its use. Guiding research questions included:

- How and to what extent are postsecondary institutions across the U.S. using AI?
- Where is the greatest uptake, use, and impact of AI within and across institutions?
- What key issues and challenges are affecting AI use for institutions?
- What is the potential for its use?
- What types of AI are most likely to impact higher education?

The survey was sent via SurveyMonkey to a total of 13,215 recipients, with 648 respondents for a return rate of 5%. Respondents were given a selection of options for all questions except the open-ended final question, and many of the total twenty questions included the opportunity to write in responses as well. Those write-in responses were analyzed using both deductive and inductive coding. This analysis, combined with the primary data collected plus six in-depth interviews conducted post survey, surfaced some insights and key findings to better understand the use of AI at institutions of higher education to support instruction and learning.

It is important to note that the research presented in this report is merely a snapshot in time of a rapidly expanding, ever-changing set of technologies and should be utilized as such.

Definitions

Artificial Intelligence (AI)

Intelligence—perceiving, synthesizing, and inferring information—demonstrated by machines, as opposed to intelligence displayed by humans and non-human animals. It is an umbrella term over generative AI, natural and large language models, and machine and deep learning. AI in an instructional environment may include (but is not limited to) adaptive and automated assessments, practice opportunities, and personalized tutoring and feedback. In addition, AI tools are being used to generate content, write code, conduct research, resolve accessibility issues, reconfigure writing processes, and detect plagiarism. AI tools also can be used to provide learning support in such forms as identifying at-risk students, recommending courses, increasing motivation, and predicting student performance.

Generative AI

A form of artificial intelligence that can create new content such as text, visual images, code, audio, or video because its neural networks have been trained on a large amount of data. Outputs might include digital art, essays, short answers, blog posts, computer code, press releases, and other types of novel content.

Neural Networks

Computer networks that are built in such a way as to mimic the human brain with each node leading to other nodes, much as the brain is a complex collection of networked neurons.

Large Language Model

A form of text-based generative AI (e.g., ChatGPT) that is trained on an enormous amount of text so that it can predict and create a given sequence of words. This

capability allows the model to "understand" inquiries and replicate human language in a largely coherent (if not always accurate) way.

Machine Learning

The use and development of computer systems that can learn and adapt without following explicit instructions, by using algorithms and statistical models to analyze and draw inferences from patterns in data (IBM, 2022).

Deep Learning

A subset of machine learning that comprises a complex neural network with three or more layers of networks. It is a technique that teaches computers to do what comes naturally to humans: learn by example.

12. Which of the following incentives does your institution offer, if any, to encourage faculty to use AI? (select all that apply)

- Stipends to encourage AI projects
- Public acknowledgment or recognition when faculty use AI
- Reassigned time or release time for planning or collaboration on AI
- Embedding AI projects within faculty
- performance review and promotion, tenure, and reappointment processes
- Certification or badge system tied to AI use
- We do not offer incentives
- We do not encourage the use of AI
- Other (please specify)

13. Has your institution created and implemented any faculty development/training around AI?

- No
- Yes; please describe:

14. Has your institution implemented policies, or are planning to develop policies, related to AI?

- Yes, we have developed and implemented one or more policies.
- No, but we are actively working on developing one or more policies.
- No, but we are planning to develop policy soon.
- No, we will not be making a policy in the foreseeable future.
- I don't know.

15. What types of policies around AI is your institution planning or developing? (select all that apply)

- Academic integrity
- Data security
- Instructional use
- Intellectual property
- Privacy
- Promotion, tenure, and reappointment
- Not applicable
- Other (please specify)

16. What types of policies around AI has your institution implemented? (select all that apply)

- Academic integrity
- Data security
- Instructional use
- Intellectual property
- Privacy
- Promotion, tenure, and reappointment
- Not applicable
- Other (please specify)

17. If you have developed one or more policies, please describe and/or provide any links to information about the policy:

18. What are the obstacles or challenges, if any, that your institution has experienced in implementing AI? (select all that apply)

- Academic integrity
- Algorithmic biases
- Technical infrastructure needed to implement and sustain
- Human resources needed to implement and sustain
- Cost to institution
- Cost to students
- Lack of AI expertise among administrators
- Lack of AI expertise among faculty
- Privacy
- Lack of policies and guidelines
- Steep learning curve for learner implementation and use
- Steep learning curve for faculty implementation and use
- Generation of inaccurate information
- Impersonal nature of interactions
- We haven't experienced obstacles or challenges
- Other (please specify)

19. What are the benefits to adopting AI?

- Teaching critical digital skills
- Improved e-learning
- Learner engagement
- Improved student outcomes
- Increased efficiency and scale

- Personalized feedback and instruction
- Improved assessment practices
- Customized and timely feedback
- Enhanced and timely interventions
- Immersive learning
- Harnessing big data
- No benefits
- Other (please specify)

20. Why has your institution opted not to use AI at the organizational level to support instruction and learning? (select all that apply)

- Cost to institution
- Cost to learners
- Pilot was unsuccessful
- Lack of administrator knowledge of technologies
- Lack of faculty knowledge of technologies
- Lack of administrator interest
- Lack of faculty interest
- Concerns about academic integrity
- Concerns about ethics/biases
- Concerns about data security
- Concerns about equitable access
- Technologies too nascent
- Champions left/moved on to other initiatives
- Not applicable
- Other (please specify)

21. Describe any additional experiences, thoughts, or concerns that were not covered above.

References

Davis, V. (2023). WCET Primer for Higher Education: General Brief on Generative AI. WCET Resources. <https://wcet.wiche.edu/resources/wcet-brief-on-generative-ai/>

IBM. (2022). Machine Learning definition. From “AI and Machine Learning platform integration.” https://www.ibm.com/docs/en/cloud-paks/1.0?topic=cloudpaks_start/ibm-process-mining/user-manuals/ai_ml_platformintegration/introduction.htm