ABSTRACT

How can Artificial Intelligence change perceived value in educational institutions based on use in common operations? This paper identifies what sectors of an educational institution students believe AI should or should not be used, sectors of job duties that Artificial Intelligence can replace human labor, and how university professors perceive Artificial Intelligence. Based on the comparability of human and Artificial Intelligence features among these sectors, we are able to focus on how Artificial Intelligence can complement human decision-making contrary to the belief that Artificial Intelligence affects companies by taking away from human positions.

INTRODUCTION

Artificial intelligence has been implemented into businesses of many different varieties with greater efficiency ratings. It has also been added to some universities to aid with admissions, website navigation, or student aid. Why have many more universities not implemented artificial intelligence into their systems yet? One of the biggest limitations of AI is not its actual capabilities, but the perception of the programming and the perception of how it affects university learning by students and faculty members [1]. Artificial Intelligence can be perceived as a complex tool that may not be grasped or understood by all users. In our paper, we are studying how Artificial Intelligence will change people's perceptions of higher education. Students across the globe work hard for their education and to earn a degree, but how will Artificial Intelligence impact that work? Will a degree mean as much in ten years as it does today? What about 20? Our findings will attempt to find answers to these questions.

Many universities have been quick to neglect AI because of programs like ChatGPT. This Artificial Intelligence program can spit out any answer or even write papers for students, causing teachers to look the other way and be closed-minded to other forms of AI. Universities have already started embedding Artificial Intelligence programs into their systems to aid students. Saint Louis University has implemented devices into its dorm rooms to help students answer a range of questions concerning facility hours and the certain location of a classroom or office [16]. Georgia State University has added a chatbot program to a specific course to help students study and complete assignments, and researchers have found that the performance of students improved [16]. Are these AI implementations already leading to a gateway of higher education becoming devalued? With the introduction of AI into higher universities, good grades will not be the only deciding factor in job searches. With access to a computer that can do anything for you, students can become stagnant and ignore the willingness to learn. Instead, relying on an AI program for much of the workload may devalue skills and the education that a student received.

BACKGROUND/LITERATURE REVIEW

Artificial Intelligence can be used in multiple sectors of University operations throughout classrooms and administrative offices. As one of the most important stakeholders in any university, Students' opinion of the use of AI is crucial. For some students, AI is perceived as being a valuable tool that offers the ability for customizable learning experiences while others believe AI to be a problematic tool that leads to inaccurate accumulation of data. Research completed by Dr. Ravi Kumar and Dr. Ramakrishnan Raman at Deemed examines student perception of AI in operational sectors. An online survey was used to gather data from 682 students in the MBA Program at Deemed University. Results indicated, "students have a

perception that AI can be effectively used in teaching - learning process, academic administration processes, and should not be used in a few processes related to admission, examination and placements" (Kumar & Raman, 2022)[1].

Students' perception of AI in the learning process is positive on the basis of AI being used as a tool used for efficiency in tasks such as research collection and brainstorming for both students and educators. Actual use of AI is demonstrated by platforms that offer students personalized tutoring assistance through the use of cognitive assistance.[2] In relation to administrative processes, AI can be used for cost reduction, data generation, resource management, automation and predictive analysis.[3] Negative perception of the use of AI in the admissions process derives from students' fear and reluctance to trust that decisions made by machines uphold accuracy. AI decision making is based on the data and specifications given, meaning it is limited and weak to being biased based on the administrator's requirements when in use. [19] The same perception of risk of incorrect results defines students' perception of AI used in examinations. This in turn can be used to tamper exams and cyber attacks due to complexity. [19] Artificial Neural Networks (ANN) is the basic idea that computer networks can be connected to learn patterns and make decisions in a human-like nature.[4] ANN processes are created by coding of rules that restrict limits and reduce the chance of error. ANNs are based on mathematical equations and may produce errors in calculation of qualitative data resulting in final errors.

When decision-making is at hand in schools, there are two approaches to offer: analytical approach and intuitive approach. The use of AI is best for an analytical approach as it is often analyzed with conscious reasoning, encompasses a broad range of applications and algorithms, and complex decision making with unmanageable amounts of data. [18] Real-world decisions

can be tricky at times due to self-biasness, so analytical approaches are best used to generate responses faster than decision-makers in the office. The intuitive approach is used by students and faculty as a way to be imaginative and creative by using years of experience and personal judgment in their decisions. [18] Their gut feeling and empathy towards the situation is something AI is not able to demonstrate, but withdrawing from self-criteria unexplained is. [18] Depending on the situation, analytical and intuitive approaches are used throughout the college experience.

AI now has capabilities to assist or replace human labor in numerous organizations and industries. The basic responsibilities of a Marketing Instructor at the University of Louisiana at Lafayette include student mentoring, curriculum improvement, program review, program development, student advising, recruitment, budget control, student engagement, and student guidance.[5] AI, in many forms, can be used in all of the listed responsibilities. Teacher-facing systems are used in academia with the purpose to reduce workloads and make outputs more efficient in automating tasks such as administration, feedback, and plagiarism detection.[6] Commonly used teacher-facing systems at UL Lafayette include Moodle, Connect, Turnitin, Wiley Plus, and Voicethread. A full delegation decision-making structure would give authority to AI to efficiently go through data sets and come out with outcomes while still making leaders responsible for the actions of the program. [19] Leaders of the university need to understand that although AI would complete all of the work, the responsibility would still fall on them due to the ethics of their managers and computer engineers. AI programs reduce time in grading, assist in evaluation, predict student outputs, and offer suggestions in tasks such as advising, development, and improvement.

Intelligent education systems (IES) assist in "some activities traditionally executed by a human teacher - such as coaching students or diagnosing their misconceptions" (Brusilovsky & Peylo, 2003) [7]. Intelligent tutoring technologies include curriculum sequencing, intelligent solution analysis, and problem solving support. Instructors are now able to customize the learning experience for every student in an efficient manner through powered tools that are able to complete tasks such as creating personalized textbooks and learning materials. AEID is the concept of adapting various AI systems for use in higher education through teaching learning activities. (Bearman, Holmes, Luckin et al. 2022). [8] Artificial intelligence can replace the instructor's role in student accountability by detecting plagiarism ensuring higher levels of academic honesty.

Examining further the typical responsibilities of an instructor at UL Lafayette in conjunction with research on the use of artificial intelligence, AI systems can replace at a minimum one sector of each responsibility. Technological advancements, such as learning analytics and machine learning, are impacting instructors' responsibilities to stakeholders, particularly students who benefit more from social and classic teaching interactions. [9] Instructors are not able to be fully replaced by AI due to unforeseen biases and limitations. Artificial intelligence uses algorithms that carry biases present in the data used for their training, leading to potential inaccuracies or reinforcing existing inequalities in education. Bias in artificial intelligence has led to concerns regarding discrimination due to methods of collecting data and learning analytics applied to the data.[10]

A hybrid decision-making structure has become more appealing to universities. Since the COVID-19 pandemic, educators are finding ways to teach remotely and put in their own physical efforts. When educators use programs for grading, they are using human decisions as input to AI

decision-making by giving confidence to the educator that their students' work is worth a certain grade based on past work from others. [19] This feature lacks interpretability unless educators end up making the final decision which could create false negatives.

University instructors have begun to use AI as a tool for learning and efficiency in their job duties. Instructors, like students, have varying perceptions of the value and use of artificial intelligence. Research has concluded that universities are slow to adopt new techniques and systems that may improve teaching and learning practices. [11] Resistance to change in higher education involves the relationship between the institutional traditions on campus and incorporating emerging technologies in the teaching learning process.[12] Themes of resistance to change include ease of adaptation, research prioritization, the importance of culture, and context.

The concept of path dependency is used as a concept to help explain university experiences with change involving artificial intelligence. [13] Path dependency focuses on university politics, power dynamics, and existing policies creating the resistance to change. The digitalization of society is pushing universities to incorporate artificial intelligence into their organizations. The post-pandemic era has accelerated the incorporation of AI into educational systems caused by factors such as a higher need for online learning. [14] An online survey produced by McGrath, Pargman, and Palmgren in Sweden collected data from 1,773 university teachers, segmented in three groups, regarding their perceptions of responsibility and artificial intelligence in higher education. Results concluded that respondents in two of the three groups believed universities should use artificial intelligence tools and systems to achieve equitable outcomes. Every decision made is created from different strengths and together these strengths give and take from each other and create an outcome. [18] The researchers identified teacher's

concerns with AI in the third group came from fear, skepticism, fairness, and lack of knowledge. The two category conclusions show that AI can be used in processes faster than humans but may result in significant errors.

Instructors are beginning to view AI as a support tool used to enhance the learning experience rather than replacing their job duties. [15] Instructors view AI as a personal assistant in grading, data analysis, and content recommendation, allowing them to focus on more strategic aspects of teaching and mentorship. Some teachers may be concerned about the ethical implications of using AI in education, especially in data privacy and potential biases in algorithms. They may advocate for transparent and accountable AI systems to ensure fairness and equal opportunities for all students. Teachers' perceptions of AI can also be influenced by their level of readiness and training in utilizing technology. Those with adequate support and training might be more open to incorporating AI into their teaching practices, while others may feel overwhelmed or unprepared. People perform better with big-picture thinking and AI can extend human capabilities rather than replace them in the workforce. [18] Overall, teachers' perceptions of AI in higher education are influenced by a combination of factors, including their comfort with technology, their pedagogical philosophy, the level of institutional support, and the extent to which they believe AI can positively impact the learning environment. Open dialogue, professional development opportunities, and collaboration between educators and technology developers are essential in fostering a positive and effective integration of AI in higher education.

Proposals

It is impossible to predict with complete accuracy how AI will affect higher education going forward, yet we know that it will be more prevalent in the near future and beyond. Everyone that is directly or indirectly involved with Artificial Intelligence programs in higher education needs to be wary of what functions these programs are performing. The fundamental objective of education is to teach students "how to access information and how to turn information into knowledge" (Robbins, 2023) [17]. With the growing use of AI, students will not need to gather information themselves, therefore the overall level of knowledge may decrease.

In the wake of Artificial Intelligence, students will not be able to rely on good grades as easily as in the past. We predict that experience will start to become more and more valuable in the AI-laden future. Many job providers look for a combination of good grades and experience, but Artificial Intelligence will start to slowly undermine a high grade point average. The job market will start to promote strong experience so that job seekers can display their skills and proficiencies. Internships will become a key function of higher education. The students that take advantage of internships to get hands-on experience and real-world experience will be at a greater advantage than students who do not participate in an internship.

Higher education will eventually have to succumb to Artificial Intelligence. It is the next new technology that will be used to assist humans. Education has adapted to new technologies before, such as the calculator. Universities will adopt AI and learn how to use it as an educational tool rather than a program to help cheat or do a student's assignments for them. We predict that because of the rising age of Artificial Intelligence, people may be less inclined to attend

university. Instead, they may go straight to the workforce or even enroll in a course that teaches how to utilize AI in the workforce/post-education. Artificial Intelligence will ultimately affect higher education because of how people will perceive it. A degree shows that a student earned good enough grades to complete a curriculum and do the work required for it. Employers, professors, and/or students may view a degree as less valuable in the future with the implementation of Artificial Intelligence and put more emphasis on displaying skills instead of relying on mental knowledge.

Conclusion

Artificial Intelligence in higher education is changing organizational processes rapidly. Students perceive artificial intelligence in two aspects, either being a tool or a process that increases errors. University instructors are slow to adapt AI in their lessons but value the use to customize lectures to the needs of individual students. AI will make a huge impact on institutions. The access to vast amounts of information and real-time feedback enhances comprehension and fosters a deeper engagement with course materials. However, it also raises concerns about the role of human instructors in this technological landscape and the preservation of the crucial human connection that education thrives upon. For instructors, AI serves as a powerful ally, automating administrative tasks, providing data-driven insights, and facilitating more efficient classroom management. Yet, there are anxieties regarding job security and the potential for AI to replace certain aspects of their roles. The collaboration between AI and human educators must be thoughtfully nurtured to ensure that the combined strengths lead to an educational landscape that is innovative, inclusive, and truly valuable for future generations of students and instructors alike.

Works Cited

1. Ravi Kumar, V. V., & Raman, R. (2022). Student Perceptions on Artificial Intelligence (AI) in higher education. *2022 IEEE Integrated STEM Education Conference (ISEC), Integrated STEM Education Conference (ISEC), 2022 IEEE*, 450–454.
2. King, M. (2017), "The AI revolution on campus", EDUCAUSE Review, Vol. 52 No. 5, pp. 10-22.
3. Chassignol, M , Khoroshavin, A. Klimova, A and Bilyatdinova, A ``Artificial intelligence trends in education: A narrative overview,''Procedia Comput. Sci., vol. 136, pp. 16_i24, Jan. 2018.
4. Estevez J, Garate G, and Graña M, ``Gentle introduction to artificial intelligence for high-school students using scratch,'' IEEE Access, vol. 7, pp. 179027_179036, 2019.
5. Marketing: Instructor Job posting, University of Louisiana at Lafayette, B.I. Moody III College of Business Administration, 2023.
6. S. Pokrivcakova, "Preparing teachers for the application of AI-powered technologies in foreign language education", J Lang Cultural Edu., vol. 7, no. 3, pp. 135-153, Dec. 2019.
7. Brusilovsky, P. & Peylo, C. (2003). Adaptive and Intelligent Web-based Educational Systems. *International Journal of Artificial Intelligence in Education*, 13(2003),156-169.
8. Bearman, M., Holmes W., Luckin, R. (2022). Discourses of artificial intelligence in higher education: A critical literature review. *Higher education*, 1-17. https://doi.org/10.1007/s10734-022-00937-2
9. Prinsloo, P. & Slade, S. (2017). *An elephant in the learning analytics room: The obligation to act.* https://doi.org/10.1145/3027385.3027406, 46-55
10. Zawacki-Richter, O., Marin, V.I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education- where are the educators? *International Journal of Educational Technology in Higher Education*, 16(1), 39. https://doi.org/10.1186/s41239-019-0171-0
11. Liu, Q., Geertshuis, S., & Grainger, R. 92020). Understanding academics' adoption of learning technologies: A systematic review. *Computers & Education*, 151, Article 103857.
12. McGrath, C., Cerratto Pargman, T., Juth, N., & Palmgren, P. J. (2023). University teachers' perceptions of responsibility and artificial intelligence in higher

education - An experimental philosophical study. *Computers and Education: Artificial Intelligence*, *4*. https://doi-org.ezproxyprod.ucs.louisiana.edu/10.1016/j.caeai.2023.100139

13. Chan, T. F. I., Borja, M., Welch, B., & Batiuk, M. E. (2016). Predicting the probability for faculty adopting an audience response system in higher education. *Research Journal of Information Technology Education*, 15, 395. Retrieved from https://www.informingscience.org/Publications/3548.

14. Komljenovic, J. (2022). The future of value in digitized higher education: Why data privacy should not be our biggest concern. *Higher Education, 83*(1), 119-135. https://doi.org/10.1007/s10734-020-00639-7

15. Krucken, G. (2003). Learning the new, New Thing': On the role of path dependency in university structures. *Higher Education, 46*(3), 315-339. Retrieved from: https://www.jstor.org/stable/3447506.

16. Selingo, J. (2023). How Will AI Change Higher Education? *The Chronicle of Higher Education*

17. Robbins, H. (2023). How Will AI Change Higher Education? *The Chronicle of Higher Education*

18. Mohammad Hossein Jarrahi, "Artificial intelligence and the future of work: Human-AI symbiosis in organizational decision making", Business Horizons, vol. 61, no. 4, pp. 577-586, 2018.

19. YR Shrestha, SM Ben-Menahem and G von Krogh, "organizational Decision-Making Structures in the Age of Artificial Intelligence", California Management Review, vol. 61, no. 4, pp. 66-83, 2019.

Other sources links:

https://www.sciencedirect.com/science/article/pii/S0002961007000748

https://www.sciencedirect.com/science/article/pii/S2451958820300142#sec2

https://cxl.com/blog/survey-response-scales/

https://www.nngroup.com/articles/measuring-perceived-usability/

https://socialwork.buffalo.edu/content/dam/socialwork/home/self-care-kit/brief-big-five-personality-inventory.pdf

https://www.researchgate.net/publication/228593520_SUS_A_quick_and_dirty_usability_scale

https://www.drugsandalcohol.ie/26768/1/General_Self-Efficacy_Scale%20(GSE).pdf

https://www.hilarispublisher.com/open-access/development-and-validation-of-a-student-self-efficacy-scale-2167-1168.1000126.pdf

https://www.tandfonline.com/doi/figure/10.1080/00313831.2017.1306796?scroll=top&needAccess=true

https://cpb-us-w2.wpmucdn.com/u.osu.edu/dist/2/5604/files/2014/09/Bandura-Instr-1sdm5sg.pdf

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3578200/

https://positivepsychology.com/self-efficacy-scales/

https://www.imis.uni-luebeck.de/publikationen/chp_10.1007_978-3-319-20892-3_36-1.pdf

https://www.researchgate.net/figure/Computer-Efficacy-Scale-CES-confidence-about-using-the-new-technology-on-the-scale_tbl1_325532188

https://www.google.com/search?sca_esv=568775834&sxsrf=AM9HkKn-sjqxOk3Yx2g6z9M3-ZYRYjibmQ:1695834786514&q=computer+technology+use+scale&tbm=isch&source=lnms&sa=X&ved=2ahUKEwjx0bDwpMuBAxUmnGoFHZq2BM4Q0pQJegQICRAB&biw=1069&bih=1071&dpr=2#imgrc=dfxnlpP9ppgmDM

https://psycnet.apa.org/doiLanding?doi=10.1037%2Ft46902-000