

THE "SKILL-GAP" PARADOX: CHALLENGES OF ARTIFICIAL INTELLIGENCE AS A SKILL ENHANCEMENT COMPONENT IN HIGHER EDUCATION

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ABSTRACT

The fast addition of Artificial Intelligence into college education has made these technologies a key factor for improving skills. However when colleges try to change their courses to include Artificial Intelligence they find a problem that affects how well they teach. While Artificial Intelligence tools, like language models and tutoring systems can definitely make learning more efficient and personalized for students they also pose a threat to the basic skills that students need to learn.

This article looks at the problems that prevent Artificial Intelligence from being used to improve skills. It looks at the problems outside of the college like the growing gap between people who have access to technology and those who do not and the lack of technology across different colleges. It also looks at the problems within the college like the risks to students minds and thoughts the problem of relying too much on Artificial Intelligence, which can make students lose their critical thinking and problem-solving skills.

The article also looks at the problems with the college system like the lack of trust in the use of Artificial Intelligence concerns about cheating, privacy and bias in the algorithms used. By looking at research and theories this article finds the main problems that need to be solved to create a fair education system. It argues that for Artificial Intelligence to help students colleges need to change from focusing on results to focusing on the process of learning and they need to work on getting humans and Artificial Intelligence to work together rather than just using machines.

Artificial Intelligence can be very helpful. It is not a replacement for human teachers. Artificial Intelligence and human teachers need to work to help students learn. The use of Artificial Intelligence in education is a change and it needs to be done carefully. Colleges need to make sure that they are using Artificial Intelligence in a way that helps students than hurting them. Artificial Intelligence is a tool and like any tool it can be used for good or bad. It is up to the colleges to use Artificial Intelligence in a way that benefits the students and helps them learn.

The main goal of education is to help students learn and grow. Artificial Intelligence can be a help in achieving this goal but it is not the only thing that matters. Colleges need to focus on creating an education system that uses Artificial Intelligence and human teachers to help students. This way students can get the benefits of Artificial Intelligence while also learning the skills they need to succeed. Artificial Intelligence is not a replacement for teachers but it can be a very helpful tool.

Colleges need to be careful when they use Artificial Intelligence in education. They need to make sure that they are using it in a way that helps students than hurting them. The use of Artificial Intelligence in education is a change and it needs to be done carefully. Artificial Intelligence is a tool and like any tool it can be used for good or bad. It is up to the colleges to use Artificial Intelligence in a way that benefits the students and helps them learn. Artificial Intelligence can be very helpful. It is not a replacement, for human teachers. Artificial Intelligence and human teachers need to work to help students learn.

1. INTRODUCTION

The world of education is changing really fast right now. This is because Artificial Intelligence or Artificial Intelligence for Artificial Intelligence are being used more and more in schools. Schools are feeling a lot of pressure from people in the business world and from the economy to make sure students who graduate are ready to work with Artificial Intelligence. As we get further into the Fourth Industrial Revolution being good at your job is not about knowing a lot about your field but also about being able to work with machines that can think for themselves. So Artificial Intelligence tools like language models, design software and tutoring systems are not just new and interesting they are seen as the way to help students learn new skills quickly.

It is not easy to add Artificial Intelligence to the school curriculum. There are a lot of problems that teachers and schools are facing. The main problem is that Artificial Intelligence can do a lot of things quickly and easily but students need to struggle a little bit to really learn and understand things. If Artificial Intelligence does all the work students might not get the chance to really think deeply and come up with new ideas. This is a concern. So we need to think about how schools can use Artificial Intelligence in a way that helps students but does not make learning too easy. We need to make sure that students are still learning and growing even if they are using Artificial Intelligence tools. This is what we are going to explore: how schools can use Artificial Intelligence without making it too easy, for students and how they can still help students become good thinkers and learners.

2. RESEARCH METHODOLOGY

To study the "skill-gap" paradox we used a mix of research methods. We looked at studies that have already been done on the topic. We also used numbers to see how Artificial Intelligence affects learning. We used a framework that looks at how people accept technology how much mental effort is required to learn and how much control students have over their own learning.

3. EXTRINSIC BARRIERS: THE INFRASTRUCTURE OF INEQUITY

The use of Artificial Intelligence in education is often talked about as a way to make education fairer. It promises to help students learn better with tutoring and expert advice.. Looking closely at the extrinsic barriers shows a different reality. These challenges are outside the students ability to learn or the teachers intention to teach. They are rooted in the financial and structural frameworks of global academia. Of bridging gaps the current use of AI risks creating a new form of "digital feudalism." This is where the quality of a students skill enhancement depends on the wealth of their institution.

A. Resource. Technical Fragmentation

The biggest barrier is the lack of high-speed infrastructure. AI-driven skill enhancement needs internet, strong computers and expensive software. Many

institutions in developing economies or rural areas struggle with the basic hardware to run advanced AI models.

The current AI landscape is messy. There is no platform designed for educational progression. Faculty have to navigate an ecosystem of third-party tools. A student might use one AI for coding, another for literature synthesis and a third for data visualization. This lack of interoperability creates an administrative burden for faculty. They have to act as IT consultants rather than educators. When tools do not work together data on student progress remains separate. This makes it hard to track long-term skill development or identify learning gaps.

B. The "Tier-Two" Skilling Gap and Global Inequity

The disparity in AI adoption creates a hierarchy between elite institutions and the rest of the academic world. Elite universities have the money to build custom AI labs hire consultants and provide every student with premium access to the latest models. In contrast other institutions often rely on limited versions of AI. These may be outdated, restricted in features or produce lower-quality outputs.

This leads to a hands-on experience gap. Students at universities learn to work with AI and manage complex workflows. Students at resourced institutions are often just passive consumers of AI-generated content. This imbalance is not a matter of convenience. It is a labor market crisis in the making. Employers seeking "AI-graduates will naturally choose those who have had high-level exposure. This will worsen existing socio- inequities. The benefits of the AI revolution will remain concentrated at the top.

C. The Lack of Standardized Methodology

The subtle extrinsic barrier is the absence of a unified standardized methodology for AI integration. There are no curriculum guidelines that define what "AI-enhanced skill development" looks like. AI usage remains highly idiosyncratic. It varies wildly from one classroom to another based on the tech-savviness of individual professors.

Most educators currently treat AI as a "instrument"—a more efficient typewriter or a faster calculator. Without an overhaul of how we teach AI remains an "add-on." It often confuses the learning process than clarifying it. The lack of a framework means that institutions are effectively "building the plane while flying it." This leads to inconsistent learning outcomes and a general sense of drift. To move forward the extrinsic environment must evolve. It must become a regulated, equitable and standardized ecosystem.

4. INTRINSIC BARRIERS: THE HUMAN ELEMENT

While the physical and structural challenges of AI are daunting the profound obstacles to skill enhancement are intrinsic. They are deeply rooted in psychology, cognitive habits and the emotional response to disruptive change. Skill development is not merely the transfer of information. It is a psychological process that requires effort, discomfort and persistence. When AI is introduced into this equation it alters the fundamental relationship, between the learner, the educator and the knowledge itself.

A. The Risk of Depending on AI Much

The biggest problem with AI is that it can make our brains lazy. We do not have to think much because AI gives us easy answers.. This is not good because we need to

struggle a bit to really learn. When we use AI to do our work like writing essays or fixing code we do not learn how to think for ourselves. This means we will not be able to do things on our own without AI.

If students use AI to do their work before they understand how it works they will not learn how to think. They will only know how to use AI, not how to solve problems on their own. This will create a generation of people who can only do things when they have AI to help them. They will not have the skills they need to succeed without it.

B. Teachers and the Stress of New Technology

Teachers are also having a time with AI. Many of them are feeling overwhelmed because they have to learn how to use technology quickly. This is causing them a lot of stress. Some teachers are even resisting the use of AI in the classroom because they do not understand it. Teachers are worried that AI will replace them. They think that if AI can give students feedback and teach them things then they will not be needed anymore. This is making it hard for teachers to want to use AI in the classroom. They need to feel like they're still important and that AI is just a tool to help them.

C. The Problem of Not Trusting AI

There are two reasons why AI is not being used as much as it could be. First people do not trust AI. They are worried that it will make mistakes or give them information. Second people do not trust the institutions that are using AI. They are worried that their personal information will not be kept private. These trust issues are making it hard for AI to be used in education. People need to feel like they can trust AI and the institutions that are using it. Until then AI will not be able to help students much as it could.

5. SYSTEMIC AND ETHICAL CHALLENGES: THE STRUCTURAL DILEMMAS OF AI

There are challenges to using AI in education. One of the challenges is making sure that AI is fair and does not discriminate against certain groups of people. AI systems can be biased if they are trained on data that's not fair. For example if an AI system is trained on data that's mostly from men it may not be fair to women. This means that women may not get the opportunities as men. This is a problem because it means that AI is not helping everyone equally.

A. The Conflict between Cheating and Innovation

The use of AI in education is also causing a conflict between cheating and innovation. Some people think that AI is cheating because it can do work for students. Others think that AI can be a useful tool for students to learn. The problem is that it is hard to tell when students are using AI to cheat and when they are using it to learn. This is making it hard for teachers to know how to use AI in the classroom. They need to find a way to use AI that helps students learn without making it too easy for them to cheat.

B. The Importance of Privacy

The use of AI in education is also raising concerns about privacy. AI systems need to collect a lot of data to work properly. This data can be used in ways that are not fair to students. For example if an AI system is collecting data on how students are doing in class it may be able to predict how well they will do in the future. This data may not

be accurate and it may not be fair to use it to make decisions about students. This is a problem because it means that students may not have control over their own data.

C. Changing the Way We Evaluate Students

To make AI work in education we need to change the way we evaluate students. Now we mostly look at the end result of their work.. With AI we need to look at the process of how they got there. This means that teachers need to look at how students are using AI to learn. They need to see if students are using AI to cheat or if they are using it to learn. This will require a change in how we evaluate students but it is necessary if we want to make sure that AI is helping students learn.

We need to focus on the journey, not the destination. We need to see how students are working with AI, how they are using it to learn and grow. This will help us understand if AI is really helping students or if it is just making things easier for them. By doing this we can make sure that AI is a tool that helps students learn, not a crutch that they rely on much. We can make sure that students are really learning and growing not just getting by with the help of AI. This is a change but it is necessary if we want to make sure that AI is used in a way that really helps students. We need to be willing to change and adapt if we want to make the most of AI in education. It will not be easy. It will be worth it. We can make a difference, in the lives of students by using AI in a way that really helps them learn and grow. We just need to be willing to try.

CONCLUSION

The use of AI to improve skills in education has its good and bad sides. On one hand it can help students in a way like never before. On the other hand it might make students less good at critical thinking, which is what it is supposed to help with. For AI to work well in schools the whole school needs to change how it thinks about technology. This means going from teaching basic computer skills to creating strong rules about using AI ethically. Also schools need to make sure that the systems they use are safe and follow the rules. The integration of AI, in education requires careful consideration. AI is a tool that can enhance learning.

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