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Imagine Impactful AI

Training AI on Efficacious Curricula to Empower Potential in K–12 Education

Introduction

The latest developments in Artificial Intelligence (AI), particularly in the realms of Natural Language Processing (NLP), Generative AI, and Large Language Models (LLM), are paving the way for transformative changes in the educational landscape. These advancements herald a new era in teaching and learning, characterized by:

- **Enhanced Support for Educators:** AI co-teachers promise to alleviate the burden of monotonous tasks, significantly boosting educators' time spent directly interacting with students, their job satisfaction, and their overall efficiency.

- **Personalized Learning for Students:** AI-driven individualized tutors are set to revolutionize the learning experience, offering customized support that aligns with each student's unique interests and areas of need.

- **Empowered Family Engagement:** AI extends its benefits to families, potentially offering immediate and comprehensive support in navigating the intricacies of many aspects of their child's schooling, from understanding report cards to navigating Individualized Education Programs (IEPs).

AI tools stand to become the latest innovation that will "enable achieving educational priorities in better ways, at scale, and with lower costs."[1] Yet, before this future state can become reality, the organizations rushing to deliver AI tools must first earn the trust of educators, administrators, and families to truly enable impact on K–12 student outcomes. To do so, addressing privacy, safety, and bias concerns is paramount. Thus, AI tools need a solid foundation: a bedrock of efficacious curriculum and pedagogy with proven track records in enacting digital-first learning in the classroom.

Efficacious Curricula: The Bedrock of Impactful AI Tools

A *walled garden*[2] is an AI tool in which the foundation model is trained on a specific set of prescribed data sources. Simply put, instead of training the model on a large subset of the internet (bias and misinformation included), it is trained on selected texts and materials. In K–12, for AI to be deployed effectively and in a manner that optimizes student outcomes, providers must leverage a foundation of high-quality digital curricula. Well-researched and highly effective training sources will get the AI model one step closer to delivering quality support to learners and educators, as well as reducing rogue instances of hallucinations[3] on our most impressionable learners. Increasing the efficacy of AI tools will build trust with educators and school leaders, who must first believe in this technology for it to have a meaningful impact on students.

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[1] [Artificial Intelligence and the Future of Teaching and Learning](#) (U. S. Department of Education; 2022)
[2] [Welcome to the 'Walled Garden.' Is This Education's Solution to AI's Pitfalls?](#) (EdWeek; 2023)
[3] Hallucinations are instances where AI models produce incorrect and, at times, inappropriate responses. These can lead to negative consequences that range from mere inconveniences to the perpetuation of bias and misconceptions.

Empowering Educators: A Synergy of AI and Human Expertise

The human element of the classroom can never be replaced by technology, only enhanced. Imagine a world in which teachers spend less time grading, gathering, and planning, and instead can dedicate more time to coaching, supporting, and guiding learners. AI has the power to serve as a catalyst for this new world, enhancing educators' capabilities rather than diminishing their roles. Simply put, AI — or any technology — cannot replace teachers. AI stands as a solution to the prevalent issue of teacher shortages[4], offering the necessary support and resources for educators who may be feeling burned out and overworked.

Enhancing Student Achievement and Classroom Experiences with AI

AI's transformative role in education will be measured by its impact on student achievement. Learning solutions should continue to prioritize fostering critical thinking skills over rote memorization, ensuring that technology contributes to meaningful learning experiences that best prepare students for the future. AI applications have the ability to enhance student engagement by increasingly personalizing learning to the individual student's interests, capabilities, and needs, ensuring that every learner can achieve their full potential.

Considerations and Risks: Balancing Innovation and Responsibility

Understanding the concerns and risks associated with AI in education, particularly regarding data privacy, security, and bias, is vital, as many educators have expressed anxiety around "future potential risks."[5] The ways in which we apply AI technology must proactively address these concerns, with a clear commitment to protect student and teacher information and implement best practices around data confidentiality, integrity, and bias. It is evident that while AI holds promise, there is a significant need for solutions that prioritize educators' efficiency and minimize the risk of generating false or misleading outputs.[6] Stakeholder engagement and transparency are the first crucial steps to building trust with district leadership, educators, parents, and guardians. This is further underscored by school and district administrator sentiment, which reveals that developing pragmatic solutions with a low risk of error would significantly enhance trust in AI among administrators.[7]

Engagement needs to provide district leaders and partners with resources to inform their communities about AI use in education, addressing concerns and dispelling myths. This approach promotes open dialogue, helping all stakeholders make informed decisions about AI in K–12 environments. For AI technology to truly be effective in generating meaningful impact, it must uphold a steadfast commitment to balancing innovation with responsibility. Furthermore, administrators are preparing to revise or create AI policies, indicating an evolving understanding and adoption of this technology in educational settings.[8]

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[4] Eliminating Educator Shortages (U. S. Department of Education; 2023)
[5] Artificial Intelligence and the Future of Teaching and Learning (U. S. Department of Education; 2022)
[6] The 2024 Administrator AI Report: Perceptions, Practices, and Potential in Education (Imagine Learning; 2024)
[7] Ibid.
[8] Ibid.

Prioritizing the launch of extensively trained and tested AI applications, as opposed to releasing minimally viable products (MVPs), is a critical factor for success in K–12. Such a thorough approach not only meets the current expectations of educators and administrators but also paves the way for effectively integrating more advanced AI technologies in the future. This strategy ensures that the AI solutions deployed in schools are both reliable and capable of evolving alongside educational needs in a responsible manner.

Guidance for Educators on Using and Evaluating AI

As we embrace the potential of AI to transform education, it's imperative for educators to be equipped with the knowledge to effectively use and critically evaluate AI-based tools. The following framework aims to provide educators with a guide for understanding, implementing, and assessing AI in K–12:

1. **Understanding AI Capabilities and Limitations:** Educators should begin by developing a fundamental understanding of what AI can and cannot do. This includes recognizing the strengths of AI in processing large amounts of data and personalizing learning experiences, as well as its limitations, such as the inability to fully understand complex human emotions or contexts. Educators should also understand the ethical implications of AI, including issues related to bias, fairness, and the societal impact of AI technologies. Emphasizing the importance of explainability in AI tools helps educators understand how AI systems make decisions to foster trust and effective use.

2. **Strategic Alignment and Leadership Engagement:** Educators should ensure that the use of AI aligns with their district's and community's mission, vision, goals, and values. It's crucial for AI initiatives to have strong support from executive leadership, including a designated team responsible for overseeing AI adoption, procurement, and management. Encourage the development of clear policies and guidelines at the district level for AI adoption, ensuring alignment with legal requirements and ethical standards. Involve a broader range of stakeholders, including students and parents, in the strategic planning process to ensure diverse perspectives are considered.

3. **Comprehensive AI Integration Plan:** A multidisciplinary team approach is essential for the effective adoption and management of AI. This team should represent multiple perspectives, including academic, technical, operations, financial, legal, administrative, communications, DEI, and student and parent groups.

4. **Pedagogical Integration:** Educators must evaluate AI tools not only on technological capabilities but also on the quality and efficacy of the content they deliver. Highlight the importance of selecting AI tools that have been rigorously tested for educational efficacy and have demonstrated positive outcomes in similar educational settings. AI tools that are built upon a foundation of proven, research-based content are likely to be more effective and reliable. Ensure that AI tools support culturally responsive teaching and address the needs of diverse learners. Such tools, developed in concert with educational experts and aligned with established curriculum standards, ensure that the integration of AI is not just technologically advanced but also educationally sound and contextually relevant.

5. **Assessing Data Privacy and Security:** Trust and safety are critical. Educators and parents need evidence of robust data governance policies, ensuring that AI tools and features comply with data privacy laws such as FERPA (Family Educational Rights and Privacy Act) and COPPA (Children's Online Privacy Protection Rule). Ensure AI tools comply with not only FERPA and COPPA but also with any state-specific data privacy laws and international regulations like GDPR if applicable. It's crucial to understand how personal data is collected, used, and protected and to verify that strong data security practices are in place.

6. **Equity and Accessibility:** It is vital to ensure equitable access to AI tools for all students and staff. This commitment encompasses not only addressing concerns regarding AI's potential to perpetuate existing biases but also ensuring that third-party vendors comply with technical requirements for accessibility. Include strategies for identifying and mitigating biases in AI systems to prevent perpetuation of existing inequalities. Ensure AI tools comply with accessibility standards such as WCAG 2.1 to support students with disabilities. Such compliance should guarantee that their technology-based services and products are usable and beneficial for individuals with diverse abilities and disabilities, thus catering to a wide range of needs.

7. **Monitoring and Evaluation:** Establish metrics to evaluate the impact of AI use in educational settings. Regular auditing and updating of AI tools and policies are necessary to ensure they remain effective, current with technological advances, and aligned with educational goals.

8. **Professional Development and Training:** Continuous and role-specific training for educators, administrators, and other stakeholders is crucial. Professional development should cover integrating AI tools into the curriculum, interpreting AI-generated data, using AI to enhance teaching and learning practices, and data privacy and cybersecurity related to AI tools. Offer or encourage participation in certification programs for educators to become proficient in AI technologies. Create communities where educators can share experiences, challenges, and best practices related to AI integration.

9. **Stakeholder Collaboration and Feedback:** Collaborate with students, families, and other educators to gather feedback on the use of AI in education. Actively seek input from students on AI tools, as they are primary users and can provide valuable insights into usability and engagement. Develop resources and forums to educate parents about AI in education, addressing concerns and fostering support. This feedback is crucial for understanding the real-world impact of AI tools and making necessary adjustments to AI toolkits.

10. **Future-Proofing Education with AI:** Educators should stay informed about the evolving landscape of AI in education. Encourage educators to keep abreast of changes in AI-related legislation and educational policies that may impact AI use in schools. This involves understanding emerging AI trends and potential future applications, as well as preparing students for a world increasingly influenced by AI technologies. Promote AI tools that foster creativity, critical thinking, and problem-solving skills to prepare students for future challenges.

By following this framework, educators can navigate the rapidly evolving landscape of AI, utilizing its potential to enhance learning while maintaining ethical standards and alignment with educational objectives.

Conclusion

In summary, the education industry needs to ground any new technology in proven pedagogy to build trust around these tools. K–12 providers must be committed to the students we serve and invite district and school leaders to join us in shaping the future of AI. Together, we can leverage the power of AI to create a brighter, more equitable future for all learners.

Imagine Learning's AI Initiatives: A Collaborative Journey

We place immense value on the perspectives of educators regarding the adoption of AI in educational support and teaching. Below is an overview of Imagine Learning's ongoing efforts in AI, reflecting our commitment to partnership and innovation in the educational landscape. Your input is vital to us as we strive to enhance instructional effectiveness and educator empowerment together.

IMAGINE LEARNING'S DIFFERENTIATION: CURRICULA-INFORMED AI FOR HOLISTIC DIGITAL SOLUTIONS

At Imagine Learning, we provide educators with research-backed curricula and data-driven insights, empowering over 15 million students across K–12 districts nationwide. As the industry's largest digital-first curricula provider, we aim to intertwine our cutting-edge, efficacious curricula with advanced technologies, including AI. Our curricula-informed AI approach goes beyond the limitations of standalone teaching tools and textbooks, offering a solution that weaves in our vetted curricula and sets a new standard for learning technology.

Our AI is grounded in digital-first curricula that ensures customization and alignment — something that's simply not possible without a solid curricular foundation. We are actively developing and expanding a robust suite of tools, from plagiarism checkers and personalized tutoring to precise assessment and innovative lesson plan generation. Continually advancing our offerings, we are integrating reputable curricular resources such as Imagine Learning EL Education and Imagine Learning Illustrative Mathematics to further enrich our solutions.

It is this curricula-first approach that can redefine the role of AI in education, ensuring our offerings do more than just support — they transform, they inspire, and they elevate the educational experience.

IMAGINE LEARNING VENTURES: INVESTING IN THE FUTURE AND PARTNERING WITH LEADING INNOVATORS

Imagine Learning is a fervent supporter of innovation in the education space, with **Imagine Learning Ventures** supporting early-stage companies developing AI-driven K–12 educational solutions. We engage in small-scale investments to encourage a diverse range of AI applications. This positions us at the forefront of AI advancements, allowing us to meet our customers' needs while staying true to our mission of serving teachers, students, and families to the best of our ability.