Navigating the Future: A Qualitative Exploration of Technology Integration Leaders'

Perspectives on Artificial Intelligence in K-12 Education

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Introduction

Technology integration has become a prominent topic in the K-12 educational space. With Artificial Intelligence (AI) transforming the workforce and business world, K-12 school teachers and administrators are wondering how they are going to navigate this form of technology integration. Artificial Intelligence (AI) has been shown to have the potential to redefine and enhance the teaching and learning experience (*Artificial Intelligence in Education*, n.d.). Understanding the perceptions and attitudes of technology integration leaders within K-12 education regarding AI is vital in the planning process for AI technology integration in the classroom.

While the potential of AI to transform education is clear, there remain open questions regarding how to best integrate this emerging technology into the classroom. Key considerations include assessing teacher readiness to adopt AI tools, evaluating ethical implications, and determining how to use AI in a way that enhances rather than replaces human connections. As school leaders explore AI integration, it will be critical to involve a diverse set of stakeholders including educators, parents, students, and community members. A human-centered design process focused on addressing real pedagogical needs rather than implementing technology for its own sake will help ensure AI is leveraged responsibly to create more engaging, equitable, and personalized learning experiences. Moving forward thoughtfully while embracing the promise of AI will enable schools to remain cutting-edge while upholding their mission to nurture students' intellectual, social, and emotional growth.

Statement of the Problem

The problem is the lack of research exploring the perceptions technology integration leaders have about AI, despite the growing interest and investments in Artificial Intelligence within K-12 education. This is an issue because the experiences and perceptions of technology integration leaders are critical in shaping the implementation and integration of technology into the K-12 educational environment. Collecting and analyzing qualitative data on their perspectives will help education leaders and school districts build their plan for navigating Artificial Intelligence with teachers and students.

This study aims to help fill the research gap regarding K-12 technology leaders' perceptions of AI integration in schools. Through in-depth interviews with district technology educators and supervisors, this research will provide insights into how these key stakeholders view opportunities and challenges associated with adopting AI technologies. It will examine their perspectives on topics ranging from the promised benefits of AI in education to concerns about student data privacy, to the importance of inclusivity and transparency in AI design. The qualitative findings will offer a nuanced understanding of how those responsible for technology implementation approach this cutting-edge issue. With technology rapidly evolving, understanding the mindset of integration leaders is crucial for thoughtfully transforming schools. This research ultimately seeks to inform effective, educator-driven adoption of AI that lives up to its potential while mitigating risks. Centering the human voices at the forefront of integration efforts will be key to realizing that vision.

Research Questions

The researchers will investigate Technology Integration Leaders' perceptions towards Artificial Intelligence using the following research question to guide the qualitative study:

R1: What are Technology Integration Leaders' perceptions of Artificial Intelligence integration in the K-12 classroom?

    A. What are the main challenges and opportunities of Artificial Intelligence integration?

    B. What are important future steps in Artificial Intelligence integration?

Literature Review

Artificial intelligence (AI) technologies have emerged as powerful tools with the potential to transform K-12 education (Zhao & Wang, 2021). However, effectively integrating AI into classrooms requires carefully weighing benefits against ethical risks and implementation challenges (Krakowski et al., 2022). It is essential to construct a literature review to evaluate AI's impact on student engagement, academic achievement, critical thinking, and equity in K-12 contexts (Casal-Otero et al., 2023). Understanding the implications and potential of AI in the classroom will inform implementation strategies that maximize educational outcomes for all students.

Several studies have indicated AI can increase student engagement and motivation to learn when thoughtfully implemented. For example, personalized learning systems driven by AI have proven effective at providing customized content, feedback, and recommendations tuned to individual students' needs and interests (Johnson, 2018). Students engage more actively with these responsive systems versus traditional standardized curricula (Fisher, 2022). Additionally, AI-enabled smart classrooms with speech recognition, computer vision, and natural language processing technologies can enable more interactive, dialogic modes of learning (Johnson, 2018). By creating opportunities for students to ask questions and direct their own learning journeys, these AI systems foster greater engagement.

The literature also highlights the risks of over-relying on AI in education. Krakowski et al. (2022) caution that AI should complement rather than replace human teachers, who play an irreplaceable role in providing social-emotional support. Additionally, improperly deployed AI runs the risk of perpetuating societal biases around race, gender, and culture (Heng, 2022). Educators must scrutinize datasets used to train AI models to ensure fair, equitable outcomes for all students (Krakowsi, 2022). While AI holds much promise, a balanced, skeptical approach anchored in human wisdom is critical. Overall, the literature clarifies that mindful, ethical integration of AI in dialogue with key stakeholders provides the best path to enhancing learning.

Historical Overview of AI in Education

The use of AI in education dates back to the mid-20th century when educational researchers began exploring its potential for enhancing instruction and improving student outcomes (Doroudi, 2022). During this time, early AI tools were designed to provide intelligent tutoring systems (ITS) and personalized learning experiences (Haq et al., 2020). These early AI systems aimed to simulate one-on-one tutoring by analyzing student performance data and providing personalized feedback and instructional support (Haq et al., 2020). This approach laid the foundation for integrating artificial intelligence in K-12 classrooms and sparked further research and development of AI in education.

Pioneers in the field of artificial intelligence like Newell, Simon, Minsky, and Papert were not just developing AI but were directly involved in conducting education research and building some of the first intelligent tutoring systems (Doroudi, 2022). For example, as early as the 1960s, Allen Newell worked on an intelligent tutoring system called Merlin to teach graduate students about AI, though it was never fully completed (Doroudi, 2022). In the 1980s, John Anderson leveraged his ACT theory of human cognition to develop model-tracing cognitive

tutors for teaching algebra and geometry. This work at Carnegie Mellon University led to the formation of Carnegie Learning and the widespread use of cognitive tutors in math classrooms that continues today (Haq et al., 2020).

Two main approaches emerged in using AI for education. One focused on symbolic AI, information processing models, and rule-based systems to simulate expert performance and teach students (Newell, Simon). The other focused more on developmental AI, constructivist learning, and open-ended microworlds for students to explore (Papert, Minsky, Schank). Although tensions emerged as researchers like Papert critiqued the limitations of traditional AI, both approaches led to innovations in educational technology and theory (Haq et al., 2020). By the 1990s, the formation of the fields of Artificial Intelligence in Education (AIED) and the learning sciences brought together interdisciplinary researchers to continue exploring the intersection of artificial intelligence and human learning (Haq et al., 2020). The historical interplay between AI and education research ultimately led to advances in both fields and new ways of understanding thinking and learning in humans and machines.

Benefits of Implementing AI in K-12 Education

AI in K-12 education can enhance personalized learning, increase accessibility, improve data-driven instruction, automate grading and feedback, and help students develop 21st-century skills like critical thinking and problem-solving (Krakowski et al., 2022). The PBL "four-step" teaching model incrementally integrates problem-based learning (PBL) pedagogy with traditional lecture and case-based methods across four stages, providing a scaffold for teachers to gradually apply active, student-centered AI education approaches in their classrooms (Zhao & Wang, 2021). PBL is a teaching method in which students learn key knowledge and skills by solving open-ended, real-world problems. AI techniques can optimize classroom resources and

reconstruct teaching processes in unique ways (Zhao & Wang, 2021). Learning experiences using AI robotics, simulations, visualization tools, and programming can promote active learning, but a more rigorous assessment of outcomes is needed (Casal-Otero et al., 2023).

Challenges and Limitations of AI in K-12 Classrooms

Ethical considerations around student rights and well-being must be addressed through integrated socio-technical learning that combines technical skills with ethics (Krakowski et al., 2022). AI literacy requires competency frameworks, teacher training, and attention to issues like gender bias (Casal-Otero et al., 2023). While AI offers many potential benefits, implementing it in K-12 settings poses significant challenges. One major limitation is the lack of rigorous evidence on learning outcomes from AI education approaches (Casal-Otero et al., 2023). More research assessing student learning is critically needed. Implementing AI requires major investments in technology infrastructure and teacher professional development (Zhao & Wang, 2021). Shortages of teachers qualified in AI concepts and tools pose a key barrier to effective integration in curriculum and instruction (Casal-Otero et al., 2023). Ethical risks around student privacy, bias, and well-being require careful attention (Krakowski et al., 2022). AI education must incorporate critical thinking on social impacts and responsible development (Zhao & Wang, 2021). Gender imbalances and inequality issues must be proactively addressed when designing AI learning activities (Casal-Otero et al., 2023). Curricula and tools often do not account for school contextual factors, needing more co-design with teachers (Casal-Otero et al., 2023). While AI offers automation capabilities, over-reliance on AI risks devaluing teaching expertise (Krakowski et al., 2022). Balancing technology with pedagogy is an ongoing challenge.

Additionally, while literature explores AI's potential broadly, there remains a gap in research specifically eliciting the viewpoints of technology integration leaders responsible for

implementation. Their insider perspectives on the complexities, barriers, and strategies for effective AI adoption are critical but lacking in the literature. By leveraging the firsthand experiences of those at the forefront of integration efforts, policies, and professional development can be better informed to guide thoughtful, ethical AI adoption.

Despite demonstrating great promise, AI in K-12 requires surmounting ethical, technical, assessment, and contextual challenges through collaborative efforts among researchers, policymakers, technologists, and educators.

Worldview

The integration of artificial intelligence (AI) into K-12 classrooms is rapidly accelerating, leading to ongoing discussions among technology leaders about its potential impact on student learning. While some hail AI as a transformative technology innovation that can personalize and enhance education, others urge caution about overreliance on algorithms and maintaining human interaction in learning. Overall, technology integration leaders have nuanced views on AI, balancing its promise and pitfalls (Karampelas, 2020).

On the positive side, technology leaders highlight AI's capacity to support individualized instruction by providing real-time feedback, scaffolding, and practice tailored to students' needs and abilities. For example, AI tutoring systems like Carnegie Learning leverage data analytics and natural language processing to identify knowledge gaps and adjust instruction accordingly (Randhawa, 2022). This differentiation allows students to learn at their own pace and receive the support they require. Initiatives like AI4K12 from the Association for the Advancement of Artificial Intelligence (AAAI) and the Computer Science Teachers Association (CSTA) have developed curriculum guidelines for integrating AI concepts into K-12 education (Touretzky et al., 2019). These guidelines focus on big ideas in AI like machine perception, reasoning, and

societal impacts. Additionally, AI can free up teachers' time by automating routine administrative and assessment tasks, enabling them to focus on higher-order instruction and relationship-building. According to education technology researcher Allison Dulin (2021), over 60% of teachers surveyed said AI has helped them be more effective and responsive.

However, technology leaders also recognize the risks of over-dependence on AI in education. They caution that AI should not outright replace human teachers, but rather serve as a tool to complement quality instruction (Kim, 2020). As education scholar Ron Kim (2020) notes, "The social, emotional, and ethical dimensions of learning require nurturing human relationships and community" (p. 73). Additionally, while AI can provide useful data, leaders acknowledge the importance of interpreting results carefully to avoid perpetuating biases. Research by the Algorithmic Justice League (2020) has found racial, gender, and income biases embedded in some AI systems, underscoring the need for continual audits.

In conclusion, technology integration leaders have a nuanced perspective, seeing AI as a promising innovation for enhancing student learning, but one requiring thoughtful implementation. Initiatives like AI4K12 provide some guidance but co-design with local schools is key (Chiu & Chai, 2020). Leaders recommend ongoing teacher training, guardrails against overuse, and maximizing AI's benefits while minimizing its risks and biases (Dulin, 2021). With proper oversight and balanced integration, AI could transform learning experiences and outcomes. However, human intervention, ethics, and the interests of students must remain central (Kim, 2020). Moving forward, technology leaders must remain committed to collaborating with educators to shape the continuing evolution of AI in education.

Theoretical Framework

This study is anchored in the constructivist philosophical theory, which posits that individuals actively construct their understanding and meaning from experiences and social interactions (Doolittle, 1999; Crotty, 1998). In the context of K-12 technology leaders' perceptions of AI integration, this framework is particularly relevant for exploring the diverse and subjective viewpoints of these key stakeholders.

Constructivism acknowledges the existence of multiple, situated realities, rather than a single objective truth (Creswell & Creswell, 2018). This theoretical stance is well-suited to examining the varied perspectives of technology leaders, as their constructions of reality are shaped by their professional roles, backgrounds, and contexts. The study seeks to capture these multiple truths through semi-structured interviews, allowing themes to emerge inductively from the participants' shared experiences and viewpoints.

The interview process, as suggested by Creswell & Creswell (2018), will utilize open-ended questions to encourage participants to reflect on and articulate their own experiences. This approach aligns with the constructivist view that meaning and knowledge are co-constructed through dialogue and interaction. The interviews aim to delve into how technology leaders' backgrounds and professional contexts inform their perceptions of AI's opportunities, challenges, and broader implications in the educational sphere.

According to Venter (2001), constructivism emphasizes understanding phenomena within their cultural, social, and historical contexts. This study recognizes the importance of considering these factors in how technology leaders perceive and approach AI integration in education. The diverse viewpoints gathered will not only reflect individual experiences but also the broader societal and cultural dimensions influencing these perspectives.

The constructivist approach in this research also involves a readiness to encounter and consider perspectives that challenge existing assumptions about AI in education (Crotty, 1998; Venter, 2001). By embracing diverse views and experiences, this study aims to offer a nuanced understanding of the complex issue of AI integration. The goal is not to reach a consensus but to illuminate the richness and complexity of the phenomenon through the multiple truths expressed by the participants.

In summary, the constructivist framework guides this study to explore the subjective, multifaceted experiences of K-12 technology leaders in AI integration. This approach will enable the research to provide a comprehensive understanding of the varied perceptions and insights of these educators, crucial for guiding thoughtful and effective AI adoption in schools.

Methodology

This study is designed to investigate the diverse perspectives of Technology Integration Leaders on Artificial Intelligence (AI) integration in K-12 education. The approach aligns with the constructivist framework that emphasizes the importance of subjective experiences in knowledge construction (Crotty, 1998). The study will utilize semi-structured interviews to gather these perspectives, allowing participants to share and reflect on their professional experiences and viewpoints on AI integration. The purpose is to assist K-12 education leaders in developing a comprehensive AI integration plan. This methodology, focusing on eliciting multiple subjective perspectives, will enable a rich, in-depth understanding of Technology Integration Leaders' varied perceptions and insights, which is vital for guiding effective AI adoption in schools.

Research Design

The researchers will utilize an exploratory qualitative approach to delve into the perspectives of Technology Integration Leaders concerning AI in K-12 education. This approach was specifically chosen to allow for a deep exploration of the nuanced and complex views of these leaders. The research will focus on the following questions:

R1: What are Technology Integration Leaders' perceptions of Artificial Intelligence integration in the K-12 classroom?

A. What are the main challenges and opportunities of Artificial Intelligence integration?

B. What are important future steps in Artificial Intelligence integration?

Population and Sample

The target population for this study is comprised of Technology Integration Leaders who are actively involved in K-12 education. To be eligible, participants must hold a position as a Technology Integration Leader within a K-12 educational institution and possess at least ten years of experience in the education sector. The study will employ a purposeful sampling method, as outlined by Creswell & Guetterman (2019), to carefully select individuals who are likely to provide rich, insightful contributions relevant to the study's focus.

Technology Integration Leaders will be recruited from various K-12 schools to participate in the study. This group will encompass diverse roles, including directors of technology, supervisors, instructional technology specialists, and teacher leaders. The sample is designed to include male and female participants from varied school communities, thereby ensuring a breadth of perspectives and experiences are represented in the research.

To initiate participation, the researchers will send out invitations via email to potential participants. These emails will include a demographic questionnaire (as detailed in Appendix A)

and a link to facilitate the scheduling of interviews. The selection of participants and the sample composition are geared toward comprehensively understanding the multifaceted perspectives on AI integration within the K-12 educational landscape.

The number of participants for the main study will be determined based on the principles of qualitative research, focusing on achieving data saturation (Creswell & Guetterman, 2019). While a specific number is not predetermined, it is anticipated that a sample size similar to or slightly larger than that of the pilot study (approximately 10 to 30 participants) will be adequate. This range should be sufficient to capture the insights required for the study, while also being manageable within the practical constraints of the research. The final sample size will be guided by the saturation point, ensuring that the collected data provides a comprehensive understanding of participant experiences (Creswell & Guetterman, 2019).

Procedure

This study will use a qualitative case study approach to explore the perceptions and experiences of Technology Integration leaders of K-12 education. The researchers will utilize semi-structured interviews. In order to increase the comprehensiveness of the data and have a systematic approach for the interviews, an interview guide approach will be used (Appendix A). The interview guide outline consists of open-ended questions to allow for a conversational dialogue (Patton, 2015).

The researchers will request consent to video and audio record sessions before the interviews begin (Appendix B). The researchers will refrain from note-taking during the interviews. The transcripts will be uploaded into Atlas.ti and analyzed and coded to identify themes. The themes should reveal information about the participants' experiences and perceptions of Artificial Intelligence integration in the classroom.

The instruments being used in this qualitative study include an interview outline (Appendix A) and a demographic questionnaire (Appendix B).

Timeline 1

Date	Activity
September	Submission of the IRB application to NJCU.
October	Recruitment of participants following IRB approval (Purposeful Sampling)
November-December	Consent granted. Conducting semi-structured interviews.
December-January	Coding occurs using Atlas.ti.
February-March	Data analysis to identify and interpret themes.
April	Completion of the final report.

Evaluation and Assessment

In order to test the validity of the methods and feasibility of the research study, the researchers conducted a pilot study. This smaller-scale version of the main study aimed to assess practicality and refine the research design (Shuttleworth, n.d.).

The evaluation of the data collection process involved conducting and analyzing eight interviews using ATLAS.ti. The interviews were coded to identify themes and examined to ensure alignment with the research objectives. The data quality was assessed by examining if the interview questions prompted in-depth discussion. Feedback from participants was also collected to evaluate and refine the data collection procedures and instruments.

Major Findings

In October 2024, the researchers conducted a series of interviews with eight adults, each holding a leadership position in integrating technology within the K-12 educational setting. When analyzing the eight transcripts, several overlapping themes emerged relating to their experiences and perspectives. This report explores the synthesized themes and key findings based on the participants' roles in technology integration. The emerging themes tagged and identified included a focus on the current use of AI in their school districts, the challenges and opportunities they feel exist, and the next steps they believe are crucial in planning for the future.

Table 1
Superordinate and Subordinate Themes

Superordinate Themes	Subordinate Themes
Current Use of Artificial Intelligence	Professional Development, no policy, individual teacher use
The Potential of Artificial Intelligence	Low-level tasks, efficiency, time-saving, differentiation
Challenges and Concerns of AI	Bias, ethics, plagiarism, accuracy, checking understandings
The Need for Professional Development and other Next Steps	Time for material development, training, policy development,

Roles in the Integration of Technology

Participants unanimously identified themselves as playing pivotal roles in incorporating technology into K-12 education. Their responsibilities mainly revolved around guiding the adoption of best practices for using technology to elevate instructional quality. They acknowledged the swift pace of technological progress and emphasized the need for the

educational system to evolve, drawing parallels with significant technological shifts in the past, such as the advent of the internet.

Current Use of Artificial Intelligence

Although two of the participants mentioned their districts have created a committee for Artificial Intelligence, the majority of the participants expressed that their districts currently have "no AI policies", and that AI "has not been implemented district-wide". This variation in AI adoption underscores the importance of this research. The personal use of Artificial Intelligence varied between participants. One participant described that they have had experience with AI and machine learning. Another participant explained they use AI primarily for lesson planning. One of the participants, a high school technology coach, explained that they "are promoting programs like Quizizz, and Magic School, and [they] will be promoting Edpuzzle and its AI features".

The Potential of Artificial Intelligence

Several technology integration leaders recognized AI's ability to streamline administrative tasks, such as lesson planning, which could allow for more time spent on student interaction and feedback. Some of the participants highlight the potential for AI to improve the efficiency of educational processes. A few of the participants mentioned Artificial Intelligence programs being able to help educators "differentiate", "personalize instruction", and "analyze data".

Challenges and Concerns of AI

Several of the participants expressed concerns about AI's challenges in the educational context, including plagiarism and the lack of infrastructure to detect AI misuse. There was some concern about the existing capabilities of their institutions to handle the implications of AI, including plagiarism and student misuse of the technology. Participant C explained that with

student use of AI, it is "harder for teachers to assess where the AI ends and where the student skill begins". The concerns extended to overdependence on AI by students, inherent biases in AI systems, and assessment challenges, highlighting the necessity of educating both teachers and students about AI's appropriate usage. Participant F likened this to promoting "digital citizenship."

The Need for Professional Development and Other Next Steps

There was a strong consensus among the leaders on the need for professional development programs aimed at effectively integrating AI into educational practices. Some participants advocated for developing a professional learning community or professional development opportunities centered on the ethical use of AI. Participant A identified their technology coach role as being crucial in assisting educators with "finding ways [to] use AI that are not undermining, but rather supporting the goal of the assignment". Participant B, a middle school technology coach, explained that "teachers are going to need time to redevelop their projects and their essays and rethink things". They stressed the importance of providing teachers with time and resources to adapt their teaching materials.

Summary

Overall, the interviews illuminated the transformative potential of AI in education, alongside significant challenges, especially regarding ethics and policy. The findings underscore the need for creating institutional AI policies and comprehensive professional development plans for educators. It is recommended that technology integration leaders play a central role in such training and in educating students about AI. Teachers should be afforded adequate time to reorient their teaching methodologies and develop new materials. The study advocates for a thoughtful, collaborative approach to AI integration in education, emphasizing continuous

learning, adaptability, and the importance of incorporating diverse perspectives through collaborative design thinking. The impact of AI on education, as perceived by the participants, will be shaped by the collective efforts of school communities to foster positive change for student development and our progress as a society.

Conclusion

The research conducted in October 2024, involving in-depth interviews with eight K-12 technology integration leaders, has provided critical insights into the implementation and implications of Artificial Intelligence (AI) in education. This study, aimed at closing the research gap regarding K-12 technology leaders' perceptions of AI, has revealed several key themes that reflect both the current state and future potential of AI in educational settings.

The findings underscore the reality that, despite AI's transformative potential, its integration into K-12 education is still in nascent stages, with many districts lacking comprehensive policies or district-wide implementation strategies. Recognizing the need for the education system to adapt to rapid technological advancements, the leaders' roles in technology integration predominantly focus on guiding best practices for technology use.

A significant observation from the study is the varied personal use of AI among participants, ranging from administrative tasks like lesson planning to promoting AI-featured educational programs. This diversity in application highlights the potential of AI to enhance educational processes, including personalized instruction and data analysis.

However, the study also brings to light the challenges and concerns associated with AI, such as ethical issues, plagiarism, and the difficulty in assessing student learning. These concerns point to the urgent need for professional development programs focusing on the ethical integration of AI into teaching practices. Participants have expressed the necessity for teachers to

have ample time and resources to adapt to AI integration, underlining the importance of professional learning communities and training opportunities.

In summary, this research paints a comprehensive picture of the current landscape and future trajectory of AI in K-12 education. It advocates for a balanced, collaborative, and adaptive approach to AI integration, emphasizing the need for continuous learning and ethical considerations. The development of institutional policies and professional development plans, as recommended by the participants, will be crucial in navigating the complexities of AI integration. The findings highlight the importance of human-centered design and community involvement in ensuring that AI not only transforms the educational experience but also aligns with the overarching mission to nurture students' intellectual, social, and emotional growth.

As AI continues to evolve and reshape the educational landscape, the insights from this study offer valuable guidance for educators, administrators, and policymakers. By embracing the promise of AI while thoughtfully addressing its challenges, K-12 education can leverage this technology to create more engaging, equitable, and personalized learning experiences, ultimately shaping a future where technology and human insight coalesce to enhance student learning and development.

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Appendix
Appendix A: Interview Outline
Project: Navigating the Future: A Qualitative Exploration of Technology Integration Leaders' Perspectives on Artificial Intelligence in K-12 Education
Time of Interview:
Date:
Place:
Interviewer:
Interviewee:
Position of Interviewee:

We are conducting a Qualitative Exploration of Technology Integration Leaders' Perspectives on Artificial Intelligence in K-12 Education. The purpose of this study is to analyze data on different perspectives of Artificial Intelligence in order to help education leaders and school districts build a plan for navigating Artificial Intelligence. Various technology integration leaders will be interviewed. The transcripts will be analyzed and coding to identify emerging themes. In order to protect your confidentiality, names will be altered in the report. The school district will not be identified. The interview will take 10 to 15 minutes. Please read and sign the consent form. Now I will start the recording.

Questions
1. Can you describe your role as a Technology Integration Leader, and how it relates to the integration of technology in K-12 classrooms?
2. In your opinion, what are the primary advantages of integrating AI in K-12 classrooms?
3. What do you see as the main challenges or concerns associated with the use of AI in K-12 education, from a technology integration perspective?
4. Have you or your institution implemented any AI-based technologies or tools in K-12 classrooms? If so, what was the experience, and what were the key outcomes or observations?
5. Are there any specific professional development or training opportunities you think are necessary for educators to effectively integrate AI in their teaching practices?
6. What role do you believe technology integration leaders should play in guiding and supporting the responsible use of AI in K-12 classrooms?

Thank you for your cooperation and participation in this interview. Your information and responses will stay confidential.

Appendix B: Demographic Survey (Link)

Dear Dear Participant:

Our names are Danielle DeGraw, Melissa Welz, and Enrique Noguera. We are a doctoral candidates within the Educational Technology Leadership program at New Jersey City University (NJCU) under the supervision of principal investigator Dr. Laura Zieger (Lzieger@njcu.edu). As the co-principal investigators, we am conducting a research study entitled "Navigating the Future: A Qualitative Exploration of Technology Integration Leaders' Perspectives on Artificial Intelligence in K-12 Education". The purpose of this qualitative research study is to examine technology integration leaders' perceptions of and experiences of Artificial Intelligence in K-12 Education. The goal is to obtain data and help districts design a plan for navigating Artificial Intelligence

We are requesting approval to:
1) Utilize your survey results
2) Contact to schedule an approximately 10-minute confidential individual interview with you that will take place via Zoom and recorded with your consent to learn about your experience with Artificial Intelligence.

Please note that your responses will be anonymous, and all data gathered from the recorded Zoom individual interview and demographic survey will be confidential. Also, the name of your school will be kept anonymous.

If agreeable to you, please complete the electronic informed consent form (see below). Once consent is received, a Calendly invitation link will be sent to you to schedule the Zoom interview. We plan to conduct interviews between_____, 2024. If this time does not work for you, I am open to other dates.

You are not obligated or required to participate in the study, but I do ask that if you are not interested to please decline by completing the online informed consent form and selecting "no, you do not consent."

Once the study is completed, we would be happy to share the results of my research with you. Thank you for your support in helping me conduct this study and if you have questions about your rights as a participant in this study, please contact Dr. Meriem Bendaoud, chair of the NJCU IRB, at (201) 200-3310 or mbendaoud@njcu.edu.

For any other questions, please feel free to contact us directly at ddegraw@njcu.edu, (908) 914-1776 or Dr. Laura Zieger at Lzieger@njcu.edu.

Sincerely, Danielle DeGraw, Melissa Welz, and Enrique Noguera NJCU Doctoral Candidates and Co-Principal Investigator Under the Supervision of
Principal Investigator: Dr. Laura Zieger Chairperson and Professor Educational Technology Department New Jersey City University (201) 200-3078/LZieger@njcu.edu

Yes, I consent to participate in the above mentioned study.

No, I do not consent to particpate in the above mentioned study.

Please sign here to consent to the above mentioned study.

SIGN HERE

clear

Full first and last name

Email Address

Phone number

School District

What gender do you identify with?

Male

Female

Non-binary / third gender

Prefer not to say

What type of school do you work at?

Elementary

Middle

High School

What Educational Qualification have you completed?

Bachelor's degree

Master's degree

Ph.D. or other advanced degree

Describe your role in technology integration in K-12 education.

Appendix C: Group Member Involvement:

Dani
Dani was involved in writing the introduction, statement of the problem, theoretical framework, the interview outline, demographic survey, research design, sampling, procedure, evaluation/assessment and major findings. Dani interviewed two study participants. Dani DeGraw uploaded 6 interviews to ATLAS, coded these interviews to find themes, and then fit them together with Enrique and Melissa's themes in order to write the Major Findings portion of the paper.

Enrique
Enrique's contributions to the report were multifaceted. He was responsible for authoring the literature review, which encompassed subsections such as the Historical Overview of AI in Education, Benefits of Implementing AI in K-12 Education, and Challenges and Limitations of AI in K-12 Classrooms. Additionally, he played a significant role in shaping the Major Findings section, took the lead in drafting the conclusion, and undertook the task of editing the entire report for coherence and clarity. Beyond these writing responsibilities, Enrique actively engaged in the research process by conducting two interviews. He efficiently processed these interviews by cleaning and uploading the transcripts to ATLAS.ti for subsequent data coding.

Melissa
Melissa wrote the worldview section and conducted four interviews. She also helped write the introduction, statement of problem, theoretical framework, literature review, summary, and conclusion. She looked over all references, edited the final draft, and finished with writing the table of contents. She also uploaded the interview transcripts to ATLAS.ti, coded the data, and found common themes from the interviews.