



## **Families and Children: Health and Wellness**

### **From Access to Empowerment: School Counselors Supporting AI Literacy in Underserved K–8 Communities**

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## **Abstract**

Artificial Intelligence (AI) literacy is no longer optional; it is a critical equity issue that directly aligns with the mission of the school counselors (and school counseling). As AI continues to rapidly transform K-8 education, access to AI literacy resources remains limited for underserved communities in rural areas. The lack of exposure to AI for students will juxtapose the mission and vision of the school counselors' role in adequately preparing students for socio-emotional, academic, and career success, thereby widening existing educational gaps and inequities. This article examines a strategic plan for K-8 school counselors to promote AI literacy and career readiness among underserved student populations.

*Keywords:* AI literacy, K-8 education, school counselor

## **Academic and Career Readiness**

School counselors are change agents, leaders, advocates, and key stakeholders in promoting change and best practices in the school climate (Lopez-Perry & Mason, 2025). The school counseling role, as defined by the American School Counseling Association (ASCA, 2023), is to cultivate students' academic, socioemotional, and career success. Integral to the role of school counselors is the ability to adapt to new curricula and resources, contributing to the overall success of students. In this rapidly evolving technological age, school counselors must position themselves as pioneers of change for students, families, and communities to stay abreast of innovative Artificial Intelligence (AI) technologies (Madeline, 2025).

Career readiness is a comprehensive term that focuses on aligning students' interests and attributes, guiding them in decision-making, and promoting employability and lifelong skills to navigate post-secondary education and employment successfully (ASCA, 2023). The school counselor plays a pivotal role in enhancing career development through several ongoing initiatives, such as college and career advising, professional development opportunities, and, most importantly, identifying gaps in college and career access. However, career readiness may look very different based on the communities that surround and are served by the schools. For

instance, schools in rural environments often have access to limited funding, all-year round educational development programs and other resources which negatively impact students' educational motivation and achievement (Hardré & Hennessey, 2010; Rodriguez, 2019). Therefore, as new disciplines and fields emerge as a result of AI advancement, K-8 students in all schools must gain early exposure to AI technologies.

### **Emotional Development and Mental Health**

School counselors are trained to nurture students' psychological well-being, encompassing both emotional and mental health (Johnson et al., 2023). Through the implementation of preventive initiatives, such as social-emotional learning programs (SEL) and responsive interventions for addressing emotional and mental health disorders, school counselors consistently promote students' self-esteem, self-confidence, and emotional regulation skills (Su et al., 2024). Since the COVID-19 pandemic, school counselors have gradually incorporated technological resources to support emotional development and mental health services. However, in rural school communities, there has since been an exacerbation of mental health crises, particularly among the K-8 student population (De La Mora, 2023; Nava, 2025). This has resulted in a shortage of school counselors and high turnover, due to a lack of economic support and resources to assist the influx of students battling with mental health disorders.

### **Ethical and Critical Thinking**

According to ASCA (2022), school counselors are responsible for promoting ethical and critical thinking skills for all students. When working with AI technologies, the demand for moral and critical thinking skills heightens due to the influx of misinformation and unreliable information (Rusandi et al., 2023). Students must learn to critically analyze, evaluate, and assess the credibility of data sources received from AI platforms before integrating AI use into their daily practice. A lack of ethical and critical thinking skills may lead to increased plagiarism, widespread misinformation, exacerbated biases in AI output, and potential overreliance on AI technologies. To develop ethical and critical thinking skills in K-8 students, school counselors should incorporate case vignettes into group counseling and classroom guidance curricula, providing opportunities for students to reflect on real-world scenarios (Walter, 2024).

### **Advocacy and Systemic Responsibility**

School counselors have both an ethical and professional mandate to engage in advocacy, as a central tenet of the ASCA National Model (ASCA, 2024). Moreso, the antiracist school counseling advocacy framework identifies advocacy and systemic responsibility as critical mechanisms to alleviate the influence of systemic oppression and racism on underserved and marginalized communities (Rutledge & Smith-Durkin, 2025). As leaders, school counselors' advocacy involves assessing their own personal biases and stereotypes and seeking resources to improve counseling services for students from diverse backgrounds (Zyromski et al., 2022). School counselors are also responsible for teaching students how to advocate for themselves and evaluate their own biases and stereotypes (Cigrand et al., 2015). Lastly, systems-level advocacy involves the school counselor identifying systemic barriers, policies, and protocols that are harmful to marginalized students and utilizing data to advocate for systemic change within the

school climate (Better-Bubon et al., 2022). Ultimately, school counselors can champion advocacy initiatives by promoting inclusivity for all families and students through programmatic efforts, policy, and infrastructure improvements, as well as cultivating equitable partnerships.

## **Equity and Access**

AI is a fluid and rapidly changing technological resource, projected to transform the workforce in the next 20 years (Lokesh et al., 2024). AI Literacy refers to one's ability to understand, evaluate, and ethically utilize AI technologies (Mills et al., 2024). Underserved K-8 rural communities, in particular, are at risk due to the consistent lack of exposure to cutting-edge AI technologies. Their limited access to computers and high-speed technology, combined with socio-economic barriers, widens the achievement and opportunity gap for students in rural areas (Madeline, 2025; Zhao et al., 2021).

Rural schools often face digital divides compared to inner-city institutions due to economic disparities, income attainment, and geographical factors (Zhao et al., 2021). The digital divide is marked by outdated technology and low-bandwidth internet connections. This inequality positions rural institutions at a disadvantage when considering the integration, introduction, and utilization of evolving AI technologies. However, due to the widespread advancement of AI in the workforce, students must become AI literate as an equitable component of career and college readiness (Wong, 2024). As various industries continue to refine their practice with the use of AI technologies, students need to be equipped with educational and practical resources to navigate emerging disciplines effectively. Even though, rural K-8 communities are at-risk of becoming systemically excluded due to lack of access, literacy, and exposure, further augmenting educational and workforce inequities and injustice (Farahani & Ghasemi, 2024), it is incumbent on education leaders, like school counselors, to develop and implement strategies designed to mitigate this risk.

School counselors are a transformative force in mitigating systemic exclusion for K-8 rural communities. As change agents in the school climate, school counselors are uniquely positioned to address educational inequities and disparities by designing strategic interventions to mitigate systemic exclusion. This article proposes a strategic plan, composed of six interconnected domains: a) Systems Level Advocacy, Curriculum and Program Development, b) Creating Equitable Partnerships, c) Student Empowerment and Exposure, d) Family and Community Engagement, and e) Outcome Evaluation, for school counselors to serve as the impetus for equitable AI literacy and career/college readiness for K-8 students. The proposal is grounded in emerging research on how rural institutions have piloted and implemented AI literacy initiatives (Kim & Wargo, 2025; Chen & Delaney, 2025). Education leaders and administrators are tasked with championing such initiatives to foster community, parental, and school-wide engagement. Moreover, such efforts provide a critical foundation in addressing educational inequities and barriers faced by rural K-8 institutions.

***Systems Level Advocacy.*** School counselors are tasked by ASCA Ethical Standards (2016) and the Council for Accreditation of Counseling and Related Educational Programs (CACREP) competencies to advocate for and engage in policy conversations focused on dismantling systemic barriers for students (CACREP, 2024). To advocate for enhanced and modernized

technology capacity, school counselors can establish a task force comprising collective families and school stakeholders committed to advancing AI literacy for K-8 underserved student populations. Together, groups can take a unified approach to advocate for legislators, school boards, and macro-level school administrators to secure funding for the purchase of AI software and hardware, as well as professional development training for teachers/school staff, to enhance AI literacy. Additionally, school counselors are equipped to collect and analyze data sets that contribute to AI literacy deficits among the school population. School counselors can utilize aggregated data to support microsystem, mesosystem, and macrosystem advocacy efforts.

***Curriculum and Program Development.*** School counselors are responsible for creating and sustaining comprehensive school counseling programs that promote academic, social-emotional, and career readiness for all students (ASCA, 2023). Through appropriate exposure and training, school counselors in K-8 schools may integrate equitable AI literacy components into their curriculum, advising, counseling interventions, and classroom lessons/workshops. K-8 school counselors begin introducing career opportunities to students as early as 3rd grade (Ockerman et al., 2023). School counselors must integrate AI platforms into career readiness initiatives to provide students with age-appropriate exposure to relevant career opportunities while intentionally teaching students how to utilize AI as an intentional educational tool. With their specialized training and understanding of academic development, school counselors are equipped to select equitable and culturally responsive AI technologies that cater to diverse student populations (ASCA, 2023).

***Creating Equitable Partnerships.*** In an effort to address AI literacy as a critical equity issue, school counselors may seek equitable partnerships with technology companies that are interested in educating and promoting literacy among underrepresented youth. K-5 students may benefit from partnerships with AI literacy-based programs, such as Day of AI, which are specifically designed to target teachers and elementary students with limited tech backgrounds with resources, education, and access to major AI platforms. Moreover, K-6 and K-8 students may benefit from advanced AI literacy programs for middle schoolers, such as the Massachusetts Institute of Technology (MIT) AI in Education program, designed to introduce and educate teachers and middle schoolers on specific AI concepts, including generative AI and the ethics of AI.

***Student/Staff Empowerment and Exposure.*** Rural school communities have unique social dynamics due to their limited funding and resources compared to those in urban and suburban areas (Amri et al., 2021). To champion AI literacy initiatives, the school counselor must learn and utilize culturally responsive strategies to address the fear and resistance anticipated when introducing new concepts. According to Prochaska and DiClemente (1983), the stages of change are outlined as follows: a) precontemplation, b) contemplation, c) determination, d) action, e) maintenance, f) recurrence.

To increase AI literacy for students, the school counselor must first gain buy-in from the teachers and staff who will integrate AI into the curriculum. The school counselor may collaborate with the administration to host a series of professional development workshops to educate teachers on the fundamentals of AI and provide opportunities for guided hands-on practice. Once teachers are exposed to AI and start to integrate it into the curriculum and classroom activities, school

counselors can develop early pipeline programs, such as AI boot camps or AI after-school clubs, to provide students with age-appropriate exposure to AI technologies.

***Family and Community Engagement.*** To cultivate the sustainable integration of AI in rural community settings, school counselors must foster family and community support (Yu et al., 2024). In many rural communities, 38% of primary caregivers for students are between 50 and 65 years old (Sempeles & Cui, 2024). The digital divide from youth to this age group contributes to the equity issue of AI literacy. To engage parents and caregivers, school counselors can host AI literacy nights to educate them on how to utilize AI technologies and equip them with future-forward career readiness skills, as well as their students. Familial and community support will empower students to trust digital resources and sustain motivation for integrated use, both in the short and long term. Genuine family and community engagement within schools have been linked to students' academic, emotional and social success (Wriston & Duchesneau (2024).

***Outcome Evaluation.*** To assess initiatives for promoting AI literacy within rural school communities, it is imperative to conduct both formative and summative evaluations before and after the launch of AI literacy efforts. The school counselor can conduct pre-assessments using Qualtrics surveys to understand students' and families' initial perspectives on AI and tailor initiatives to help address specific areas, such as fear, knowledge, or competence. To creatively evaluate the outcomes and impact of AI literacy training, the school counselor can utilize inquiry based learning where students can complete a capstone or portfolio project that demonstrates their understanding, practical use, and competence related to AI technologies. Inquiry based learning, like capstone projects and portfolios have been supported in the literature as an effective instructional approach (Chang, 2019; Ayaz & Gok, 2023). Moreso, K-8 school counselors can utilize observation and tracking software systems to evaluate the short and long-term integration of AI within the school community.

### **Case Illustration (K-8)**

The following case illustration demonstrates how school counselors can successfully integrate AI technology within their school environment. In this case illustration school counselors will propose a strategic plan where school counselors serve as the impetus for equitable AI literacy and career/college readiness for K-8 students. The Case Illustration is as follows:

At Green Valley Elementary, a small rural K-8 school serving a predominantly low-income student population, the school counselor noticed a widening gap in students' exposure to technology. While urban peers were already using AI-powered learning tools and coding platforms, many Green Valley students had limited access to high-speed internet and outdated devices at home.

In response, the school counselor will begin identifying system-level advocacy by collaborating with local stakeholders to design a three-tiered AI literacy initiative. The school launched teacher professional development workshops introducing AI basics and ethical considerations. Next, the school counselor implemented AI career exploration units in classroom guidance sessions, where fifth- to eighth-graders engaged in lessons about emerging AI-driven careers (e.g., healthcare robotics, agricultural technology). Finally, the school hosted "Family AI

Nights,” in which parents and caregivers explored how AI tools can support career readiness and daily problem-solving.

Throughout the school year, students participated in after-school “AI Bootcamps,” creating simple projects, including chatbot scripts and image recognition demonstrations. Making note of outcome data from teachers reported increased student engagement, particularly among those who previously struggled with motivation in STEM-related activities. Parents expressed gratitude for being included in the learning process, noting that their children’s excitement about AI carried over into conversations at home. Importantly, the school counselor administered pre- and post-intervention surveys, demonstrating measurable growth in students’ confidence with AI-related concepts and their ability to evaluate online information critically.

### **Implications for School Counselor Training**

The integration of AI literacy into K–8 school counseling highlights the urgent need to expand counselor training programs. Counselor preparation curricula must include modules on digital equity, AI literacy, and ethical considerations surrounding emerging technologies. This training would prepare school counselors to support students’ academic, social-emotional, and career development in increasingly AI-driven environments. While considering the ethical use and handling of student data in a fast-changing world of technology. By learning how to engage with AI critically, counselors can confidently model digital citizenship, integrate AI awareness into counseling interventions, and address the digital divide as both an equity and access issue. Training programs should therefore prioritize equipping future school counselors with strategies to bridge technological gaps in rural and underserved schools.

### **Implications for School Counselor Education Research**

The role of AI literacy in counselor education opens new avenues for scholarly inquiry. Research is needed to examine how AI literacy initiatives influence students’ career readiness, especially in underserved rural K–8 communities. Studies could investigate the effectiveness of school counselor-led interventions—such as AI bootcamps, classroom guidance lessons, or family engagement nights—in reducing inequities in technological access and preparing students for emerging career pathways. Additionally, counselor education researchers might explore systemic barriers, such as limited funding, infrastructure gaps, or educator resistance, to gain a deeper understanding of the intersection between AI integration, equity, and student development. This body of work would provide evidence-based practices that inform both policy and counselor education pedagogy.

### **Implications for the Practice of School Counseling**

In practice, school counselors must assume leadership roles in advocating for AI literacy as a component of career readiness and educational equity. This involves collaborating with teachers, administrators, families, and external partners to create sustainable AI-focused programming. Practitioners will need to integrate AI exposure into existing counseling frameworks, such as college and career readiness initiatives, social-emotional learning, and equity-driven advocacy. Counselors in rural settings are called to act as systemic change agents who not only support students’ academic and emotional needs but also prepare them to navigate an evolving

workforce. By incorporating AI literacy into their counseling practices, school counselors can bridge the digital divide, transforming it into an opportunity for empowerment. This ensures that all students, regardless of their geographic location or socioeconomic status, are prepared for the future.

## **Conclusion**

School counselors have an opportunity to become pioneers of change for students, families, and communities in rural areas by embracing AI tools and technologies. The authors of this article propose a strategic plan with six key areas to assist school counselors in integrating AI into school environments: a) System-Level Advocacy, Curriculum Program and Development, b) Creating Equitable Partnerships, c) Student Empowerment and Exposure, d) Family and Community Engagement, and e) Outcome Evaluation. By developing comprehensive programming that incorporates AI, school counselors can help close critical opportunity gaps for K-8 students in rural areas and prepare them for a technology-driven future.



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