

# Amplifying Rural Educators' Perspectives: A Qualitative Study on the Impacts of Generative AI in Rural U.S. High Schools

[Shira Michel](#)<sup>1</sup>, [Ben Taylor](#)<sup>2</sup>, [Sabrina Parra Díaz](#)<sup>2</sup>, [Joseph B. Wiggins](#)<sup>2</sup>, [Ed Finn](#)<sup>3</sup>, [Mahsan Nourani](#)<sup>1</sup>

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<sup>3</sup> Arizona State University 

ACM CHI Conference on Human Factors in Computing Systems (2026)



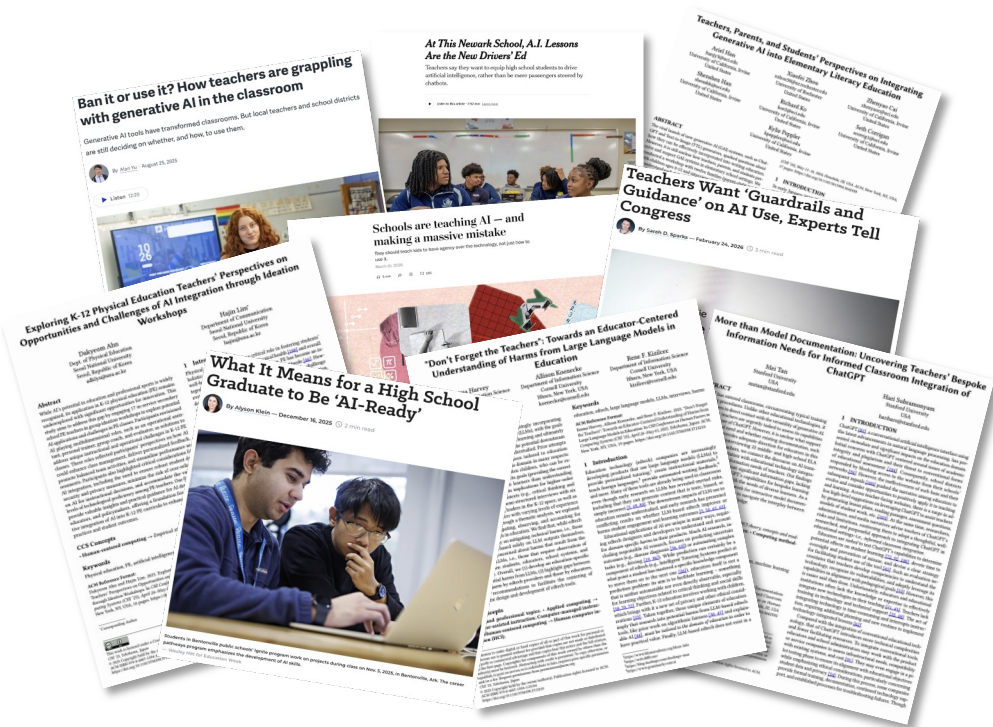
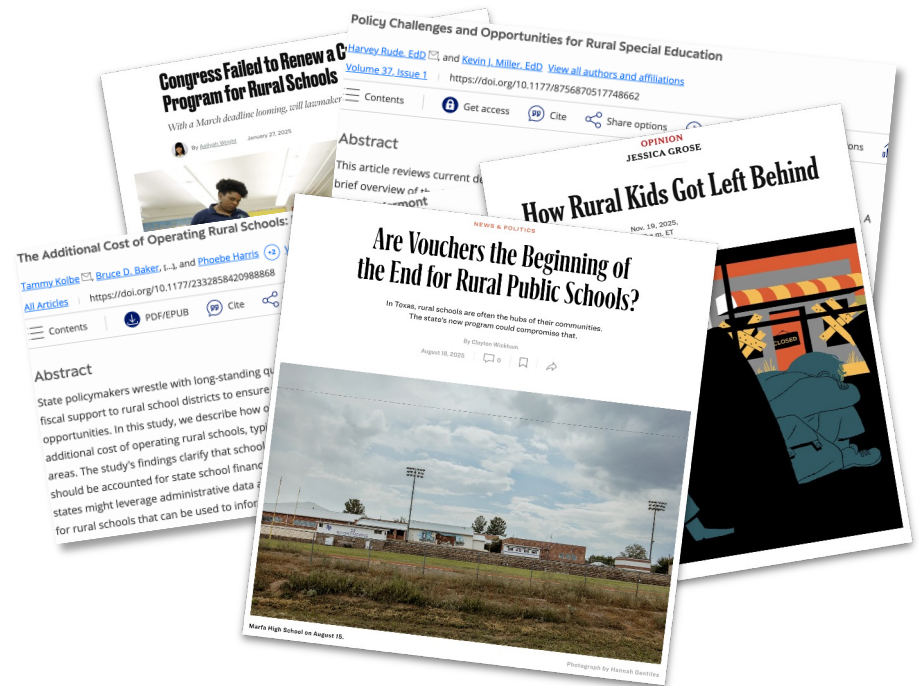


Image credits: whyy.org, nytimes.com, Han et al. CHI 24, Ahn and Lim CHI 25, washingtonpost.com, edweek.org, Harvey et al. CHI 25, Tan and Subramonyam CHI 24



***Most conversations come from urban/suburban contexts that implicitly assume equal access to the infrastructure AI adoption requires.***



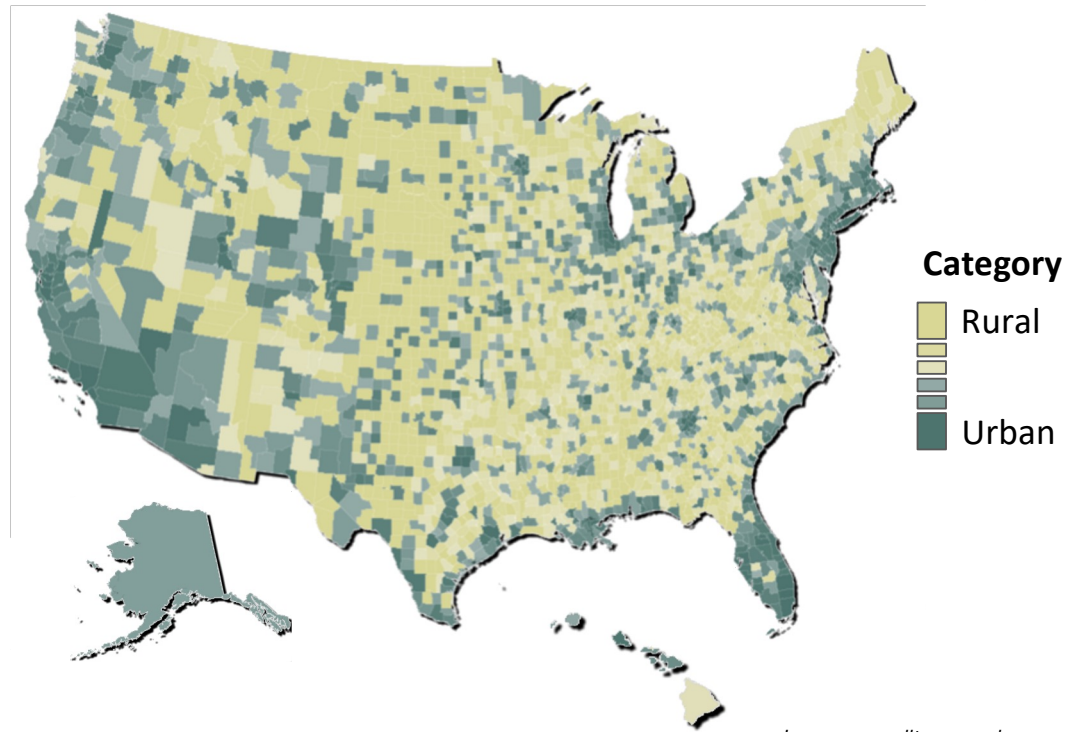
***Overlooking the contexts of rural schools reinforces the pattern of technologies and policies continuing to fall short of rural needs.***





# What does rural mean?

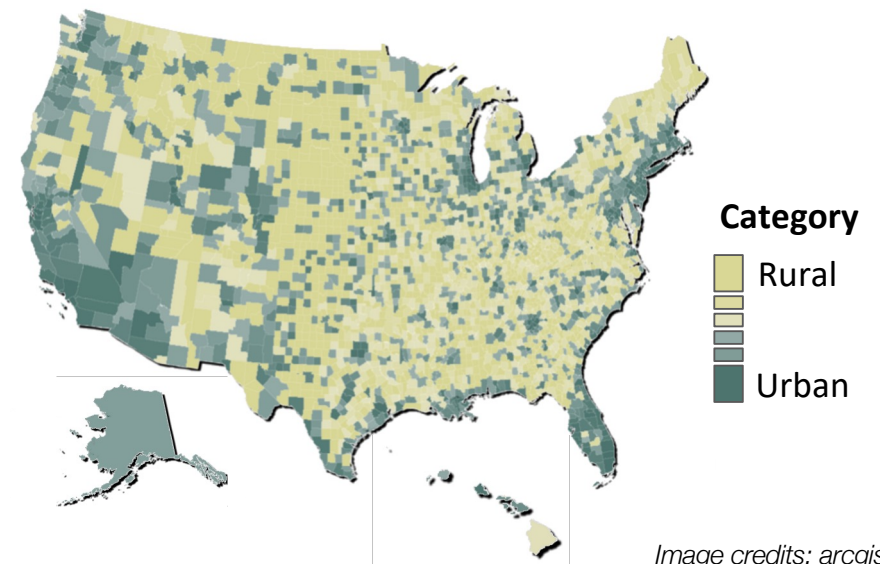
**2020 US Census Population Characteristics By County**



## What does rural mean?

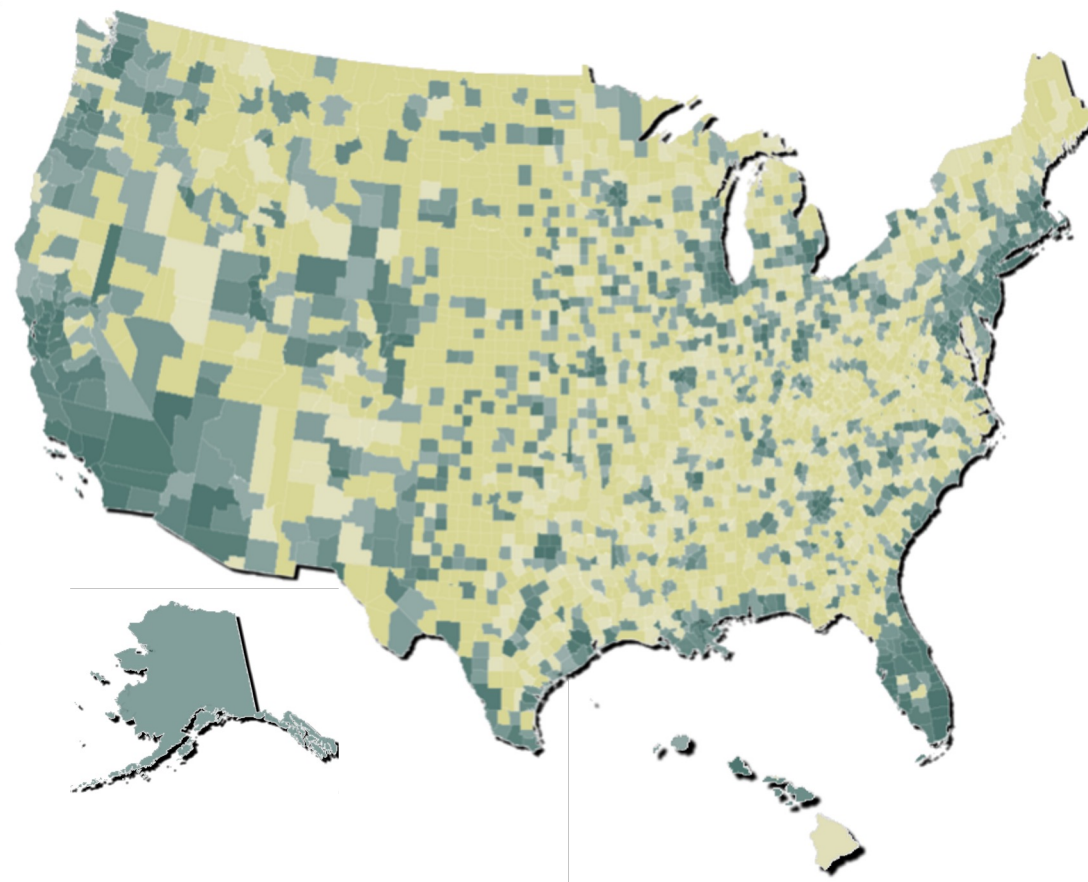
Rural is *classified* as any population, housing, or territory that **does not meet the criteria of an urban area** [1].

2020 US Census Population Characteristics

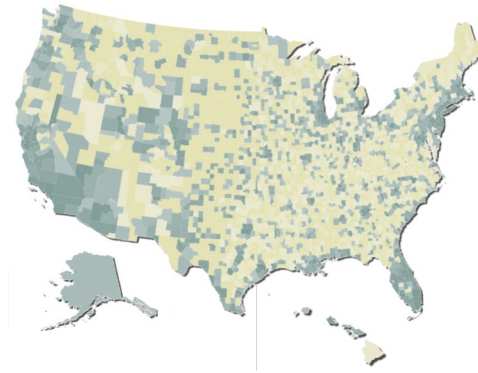


[1] United States Census Bureau. 2024. *Urban and Rural*.

What do we mean by rural?

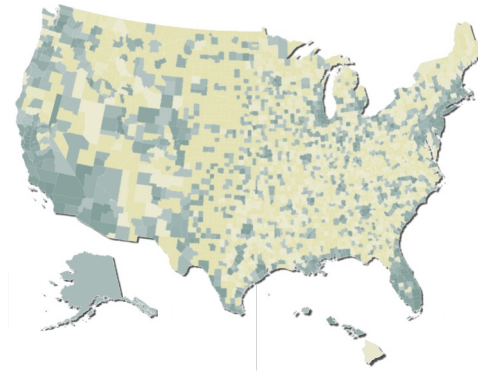


What do we mean by rural?



***Rural consciousness: a theoretical shared identity*** [2]

What do we mean by rural?



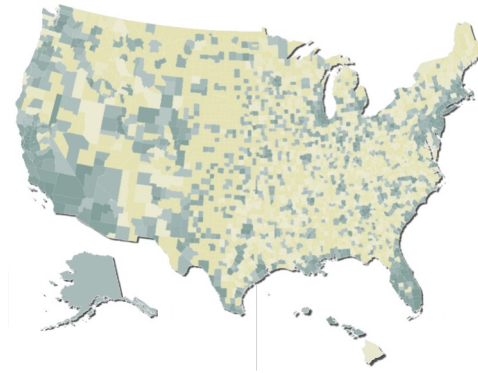
***Rural consciousness: a theoretical shared identity*** [2]



***Sense of  
belonging***

[2] Walsh. 2012. *American Political Science Review* 106.

# What do we mean by rural?



***Rural consciousness: a theoretical shared identity*** [2]



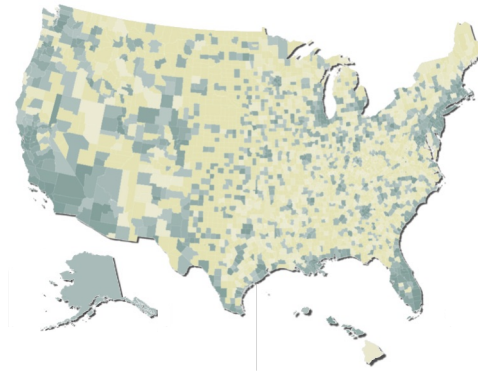
*Sense of belonging*



***Embrace values and lifestyles***

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***Rural consciousness: a theoretical shared identity*** [2]



*Sense of belonging*



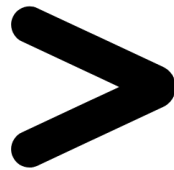
*Embrace values and lifestyles*



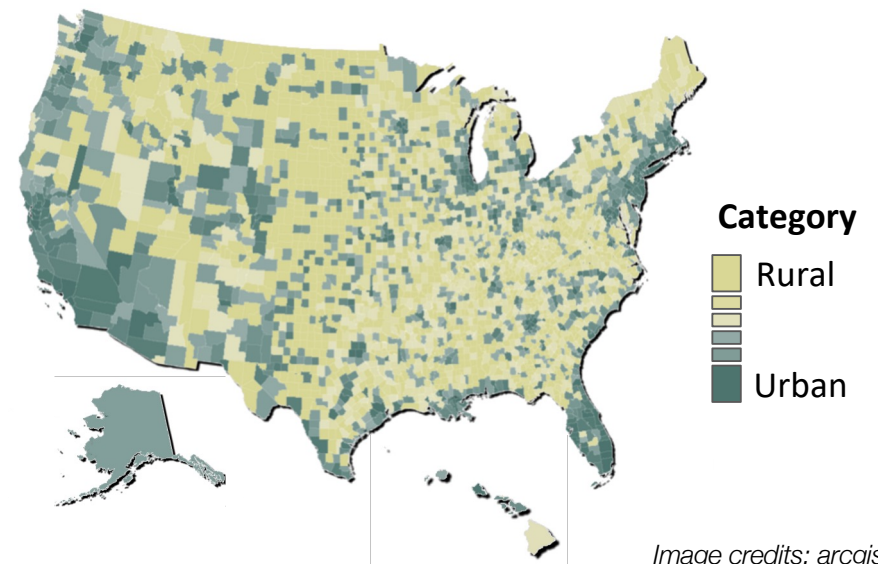
***Social injustice***

[2] Walsh. 2012. *American Political Science Review* 106.

What do we mean by rural?



2020 US Census Population Characteristics



*Most importantly, we center **participant's own definitions** of rural.*

## Study overview

We explore **rural high school educators' perspectives** on generative AI (**GenAI**) across **three** U.S. States.



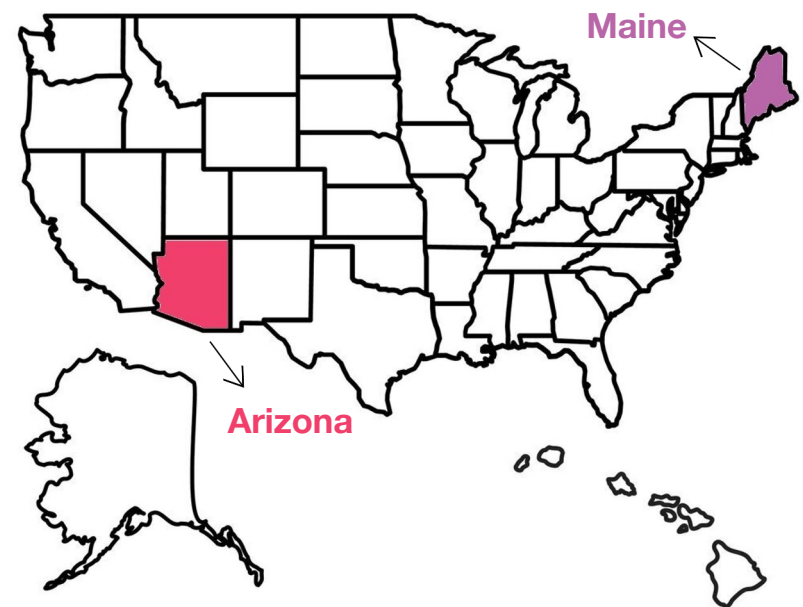
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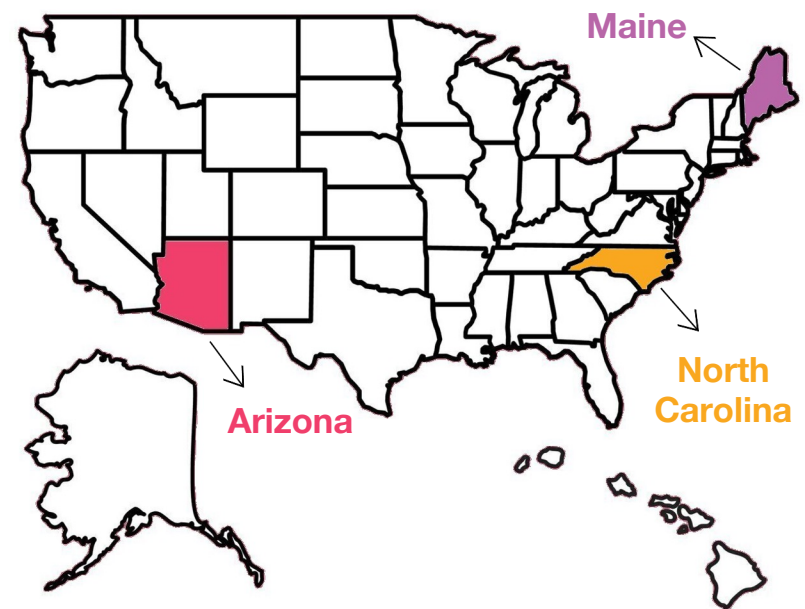
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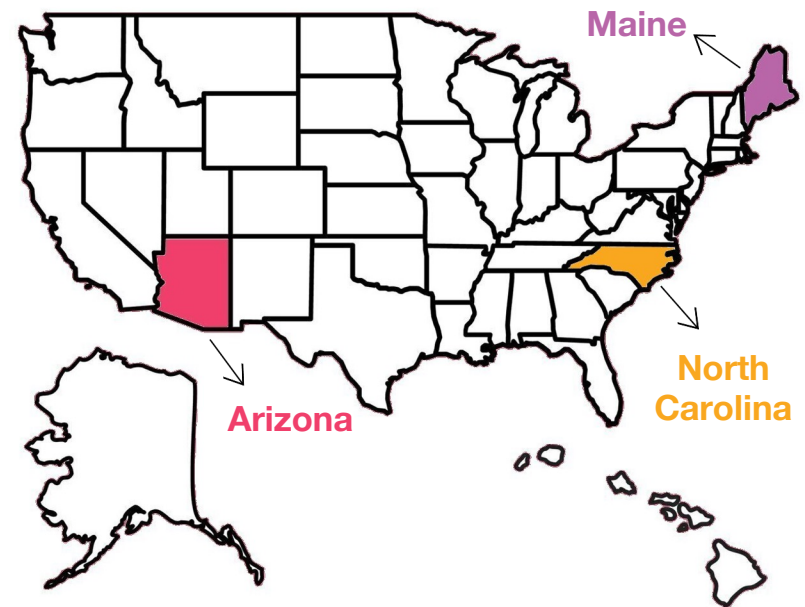
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High school *students* can **meaningful engagement** with technology [3].

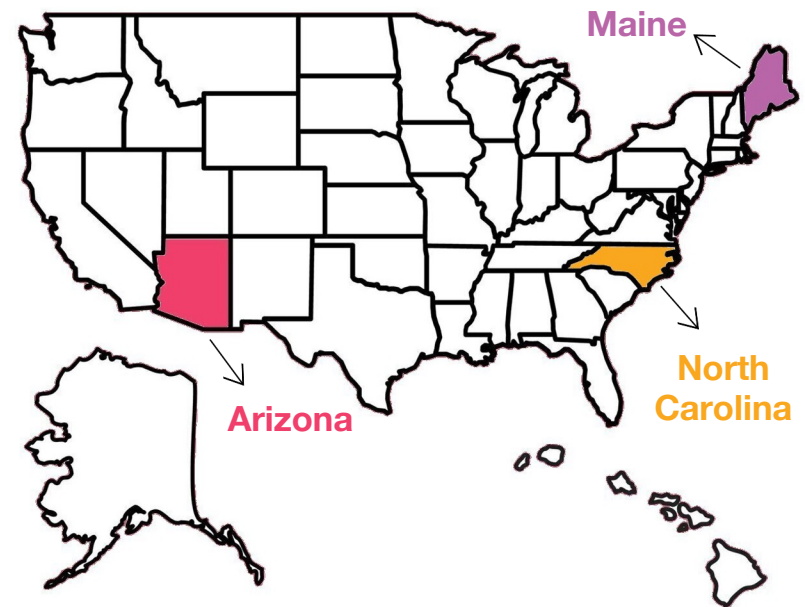


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High school students can meaningful engagement with technology [3].

High school *educators* contribute to **college and career preparation** [4].



[3] Demir. 2022. *Journal of Pedagogical Research*. [4] Johnston et al. 2021. *Social Psychology of Education*.

## Study overview

### Research Question

***How do rural high school educators experience, navigate, and envision the role of GenAI in their schools and classrooms?***


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**Broadening Reach**

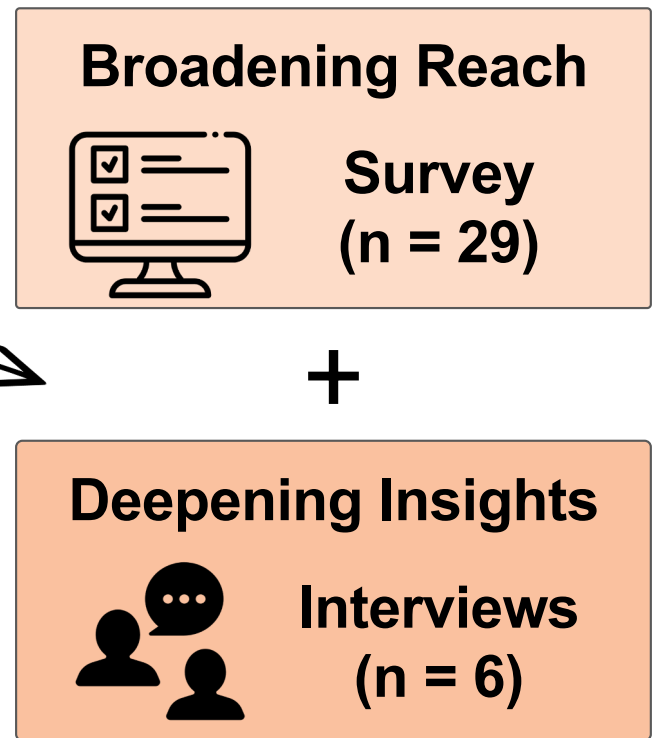


**Survey  
(n = 29)**

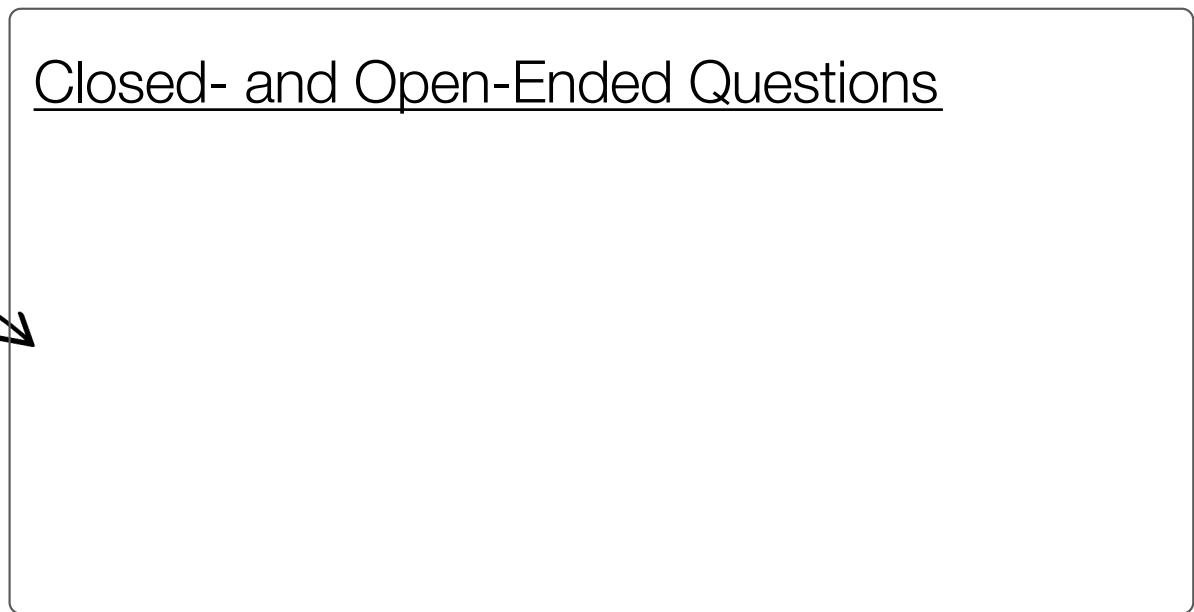
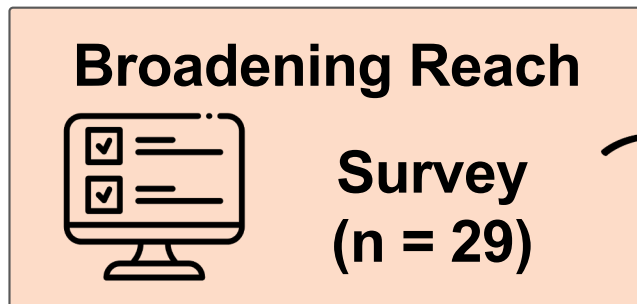
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# Understanding GenAI in rural educational contexts



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## Broadening Reach



**Survey**  
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Closed- and Open-Ended Questions

**Current Relationship with GenAI:**

familiarity, day-to-day realities

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### Closed- and Open-Ended Questions

Current Relationship with GenAI:  
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**Perspectives on GenAI:** attitudes,  
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# Understanding GenAI in rural educational contexts

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### Closed- and Open-Ended Questions

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***[Optional] Follow-Up Interviews***

# Capturing nuances of rural educator realities with GenAI

**Deepening Insights**

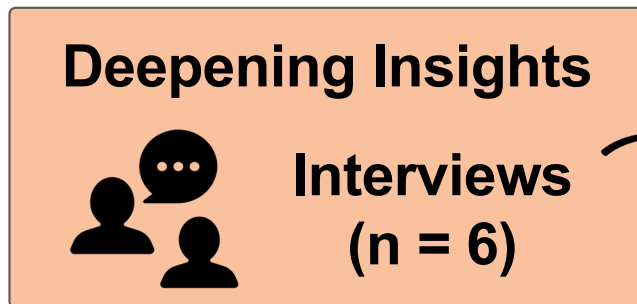


**Interviews**  
(n = 6)



Questions

# Capturing nuances of rural educator realities with GenAI




Questions

**Teaching Context:** role, community, responsibilities

# Capturing nuances of rural educator realities with GenAI

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**Interviews**  
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## Questions

Teaching Context: role, community, responsibilities

**GenAI's Impact on Teaching:** challenges, changes to workflow

# Capturing nuances of rural educator realities with GenAI

## Deepening Insights



**Interviews**  
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### Questions

Teaching Context: role, community, responsibilities

GenAI's Impact on Teaching: challenges, changes to workflow

**Perspectives on GenAI:** concerns, speculations on helpful tools

# Qualitative data analysis

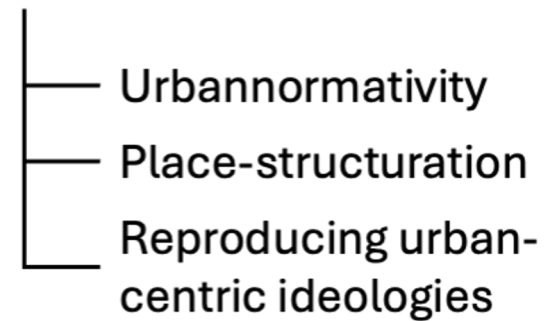
Theme	High-Level Code	Description	Count of Times Referenced by Educators in Survey	
<b>Current Landscapes of Rural (High School) Education</b>	Defining Rural	Rural educators describe “rural” through geography, distance from cities, commute times, and travel required for field trips.	0	
	Location-based Learning	Rural educators integrate local resources into their educational practices.	12	
	Useful Resources & Support	Rural educators seek technological tools, peer support, and traditional resources (e.g., books) to address challenges.	26	
	AI & GenAI Applications	Rural educators have adopted AI and GenAI to ease workload and enhance teaching practices.	24	
<b>Ongoing Challenges</b>	Limited Technical Infrastructure & Student Access	Connectivity issues, lack of educational supplies, and limited student access to devices persist as major challenges.	10	
	Rural Educator Burdens	Rural educators face heavy workloads and increased responsibilities without adequate institutional support.	27	
<b>New Challenges</b>	Student Skill Development & AI Literacy Gaps	Rural educators are concerned about students’ limited AI literacy, lack of understanding responsible GenAI use, and risks to broader skill development.	10	
	GenAI Skepticism & Adoption Barriers	Rural educators perceive GenAI as irrelevant, ineffective, or impractical for their teaching needs.	8	
	Need for GenAI PD & Standards	Rural educators call for professional development and clear standards to guide effective GenAI integration.	8	
<b>Opportunities</b>	Speculative Applications	Rural educators envision new potential use cases for themselves and their students.	7	
	Addressing Rural Challenges w/ GenAI	Rural educators see GenAI as a tool to help reduce burdens and mitigate rural educational inequities.	9	

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Urbannormativity

Place-structuration

Reproducing urban-centric ideologies

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## Key findings

**(1)** Rural educators **embrace** GenAI, but **resource disparities prevent** meaningful integration.

**(2)** GenAI risks **deepening existing** divides and **introducing new** barriers.

**(3)** Rural schools are sites for **unexpected innovation and hopeful imaginaries** surrounding GenAI.

**(1)** Rural educators **embrace** GenAI, but **resource disparities prevent** meaningful integration.

**96.6%** see potential for **educators**

**86.2%** see potential for their  
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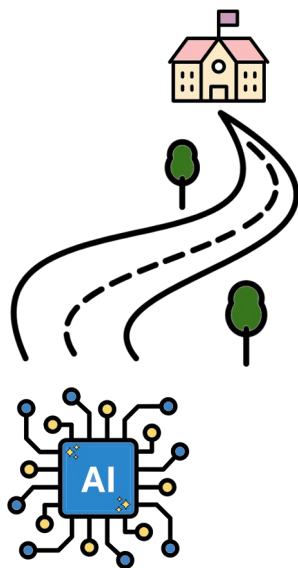
**79.3%** report **low confidence to learn** GenAI skills


**75.9%** report **difficulties to keep up** with new technology

**(1)** Rural educators **embrace** GenAI, but **resource disparities prevent** meaningful integration.

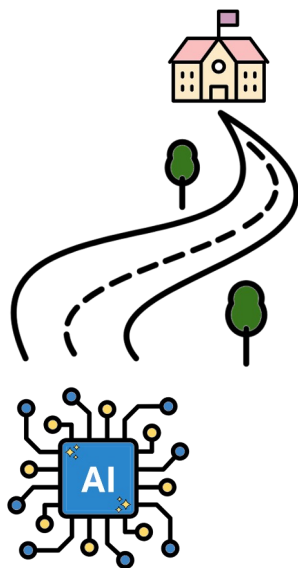
**Takeaway:** There is a **gap** between GenAI's **promise** and **the reality** of rural communities.


**(1)** Rural educators **embrace** GenAI, but **resource disparities prevent** meaningful integration.



***“I don't really see a lot of PD opportunities unless it's like...[over Zoom]... Nobody's going to come to [my county]”*** -  16

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**“I don't really see a lot of PD opportunities unless it's like...[over Zoom]... Nobody's going to come to [my county]”** - 

Technical infrastructure barriers including **unreliable internet, insufficient devices, and subscription costs** continue to **limit** GenAI's impact - 

**(1)** Rural educators **embrace** GenAI, but **resource disparities prevent** meaningful integration.

**Takeaway:** For some, GenAI integration is **just out of reach** or **not yet in sight**.

(2) GenAI risks **deepening existing** divides and **introducing new** barriers.

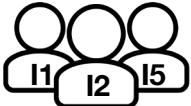


“[Educators] are being **asked to do things that they normally aren't able to**” -  11

(2) GenAI risks **deepening existing** divides and **introducing new** barriers.



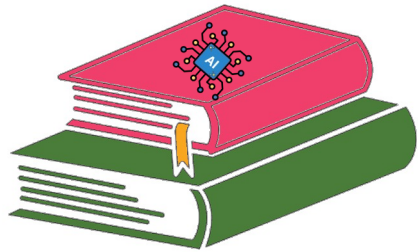
“[Educators] are being **asked to do things that they normally aren't able to**” - 

There is a **new added responsibility of distinguishing AI-generated content** from genuine student work - 

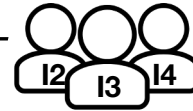
**(2)** *GenAI risks **deepening existing** divides and **introducing new** barriers.*

**Takeaway:** *GenAI is **another ask** for educators who are doing more with less.*

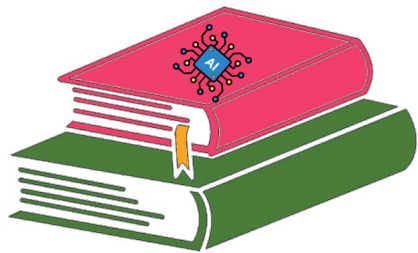
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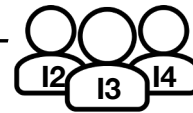
Educators **feared** students would **experiment** with AI tools **beyond classroom parameters** and expectations -



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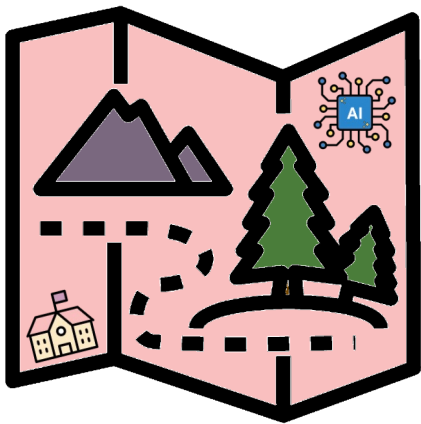
“Many teachers **don't feel comfortable** leading those discussions because they **don't know how to use** [or] are **not comfortable** with AI [themselves]” -



**(2)** *GenAI risks **deepening existing** divides and **introducing new** barriers.*

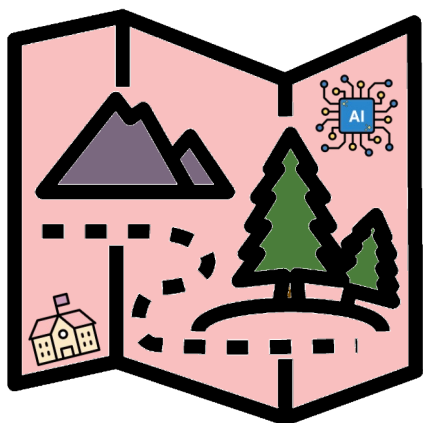
***Takeaway: GenAI demands a new literacy that educators were **not prepared** to teach.***

(3) Rural schools are sites for **unexpected innovation and hopeful imaginaries** surrounding GenAI.



“...the **legend of the lost Dutchman's mine** is one that always [piques] people's curiosity. And so I **created a lab group project** [finding it]...” -  11

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“[GenAI can] help **create projects from resources around them**” -  S13

**(3)** *Rural schools are sites for **unexpected innovation and hopeful imaginaries** surrounding GenAI.*

**Takeaway:** *GenAI can **extend community-centered teaching** that educators value.*


(3) Rural schools are sites for **unexpected innovation and hopeful imaginaries** surrounding GenAI.




GenAI can **reduce educational resource inequalities** by “offering a **wide range** of resources and courses” -  S12

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GenAI can **reduce educational resource inequalities** by “offering a **wide range** of resources and courses” - 

Educators **envision** GenAI **enhancing student interactions** by providing **high-quality content, advanced materials, and learning tools** - 

**(3)** *Rural schools are sites for **unexpected innovation and hopeful imaginaries** surrounding GenAI.*

***Takeaway: GenAI brings resources and expertise within reach for classrooms.***

## Call to action

**Balance intention with capability**—*prioritize availability, sustainability, and adaptability*

**Center rural voices over AI hype**—*solutions need to meet rural communities*

**Co-design with rural stakeholders**—*create more equitable educational technologies that serve diverse learning environments*

Responsible AI adoption and policy  
**cannot be built solely on** the voices and  
experiences of **the most connected and**  
**visible** communities alone.



For more information, please refer to our paper.

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