

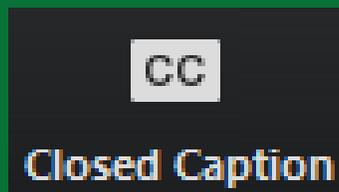
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A Closer Look: Teacher Perceptions and Use of Technology in Teaching

October 16, 2019



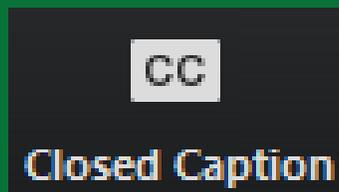
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Marshal Conley

*Senior Technical
Assistance Consultant*



Jonathan Margolin,
Ph.D.

Principal Researcher

Agenda

1. Welcome and Overview
2. REL Midwest Research
3. Practitioner Panel Discussion
4. Question and Answer Session
5. Wrap-Up

Welcome and Overview

Who does REL Midwest work with?

School districts, state education agencies, and other educational organizations in Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin

What does REL Midwest do?

Applied research, technical support, and engagement activities to help partners use data and research to meet their goals for improving outcomes for students

How does REL Midwest do this work?

REL Midwest conducts its work through collaborative research partnerships with stakeholders in Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin.

To address the priorities and interests of these states, REL Midwest supports several research alliances and a networked improvement community, as well as emergent partnerships.

Why does REL Midwest do this work?

To solve practical problems and advance fundamental understandings of education challenges and processes, as well as to improve student and teacher outcomes by identifying, testing, and applying solutions

Types of Support REL Midwest Offers



Applied research studies that address partnerships' research questions



Events that support the dissemination and understanding of existing research



Workshops that support the use of data and research



Coaching that supports the use of data and research



Technical support such as survey, interview or observation protocol development, literature reviews, or tool development



Reviews of studies and interventions to determine level of evidence to support ESSA implementation



Ask-A-REL annotated bibliographies produced in response to stakeholder questions

REL Midwest Research Study

Technology use in instruction and teacher perceptions of school support for technology use in Iowa high schools

In Iowa...

- Recognition that technology can provide opportunities for learning 21st century skills
- Challenge: How to support teachers' use of educational technology (ed-tech)?
- Focus on the rural context



Universal Constructs for 21st Century Success

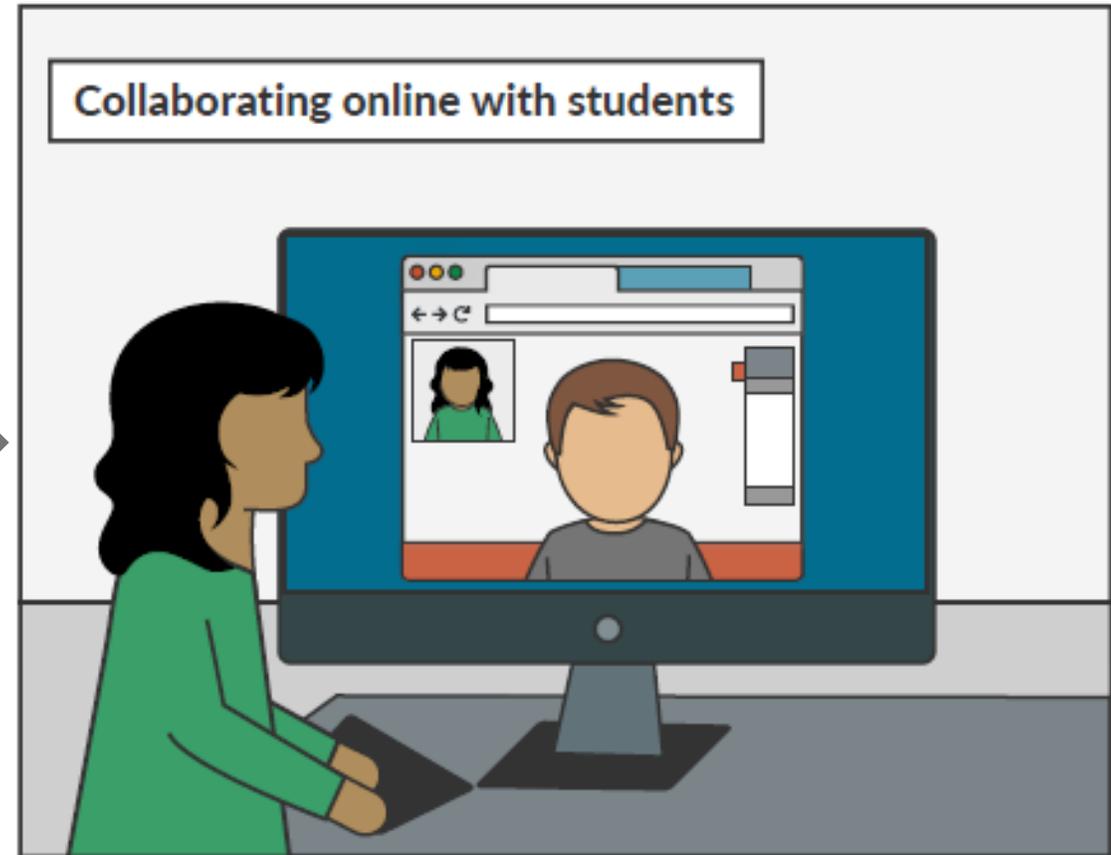
- Collaboration
- Creativity
- Complex communication
- Critical thinking

- Flexibility and adaptability
- Productivity and accountability



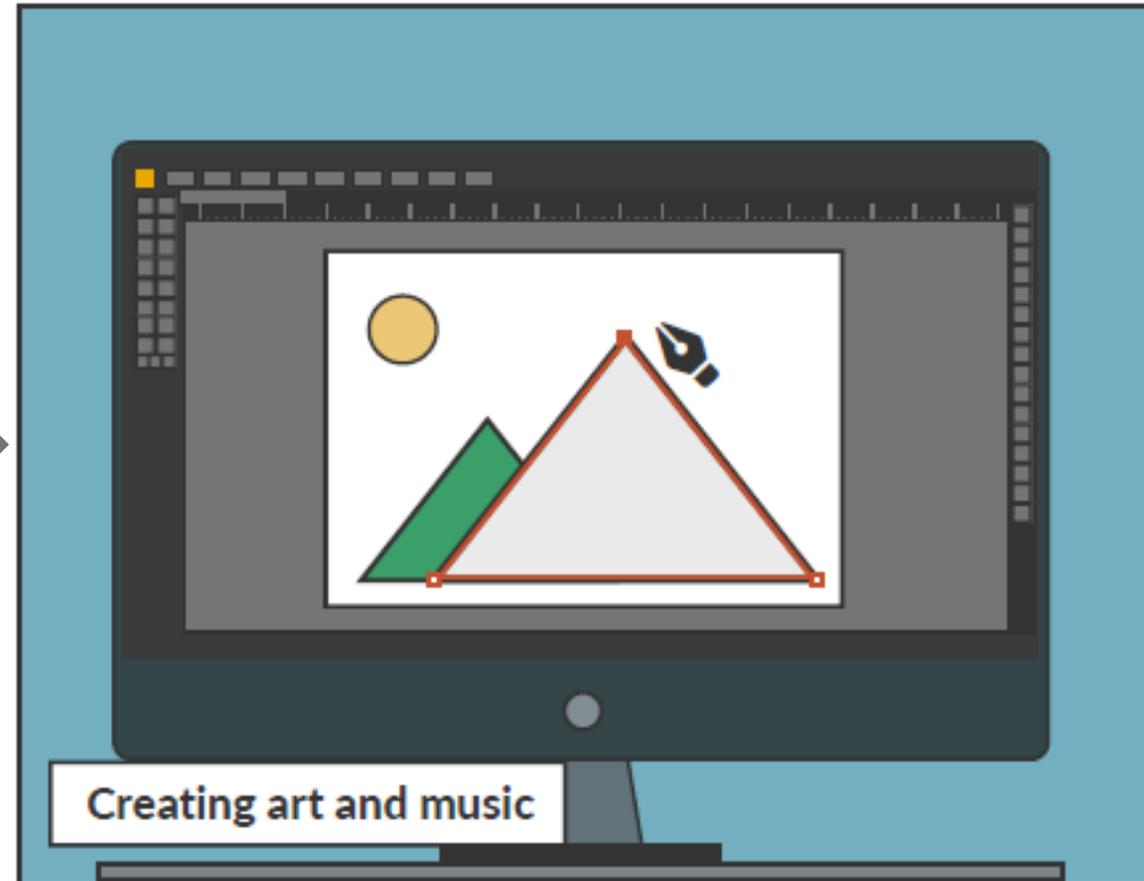
Collaboration

Working among and across personal and global networks to achieve common goals



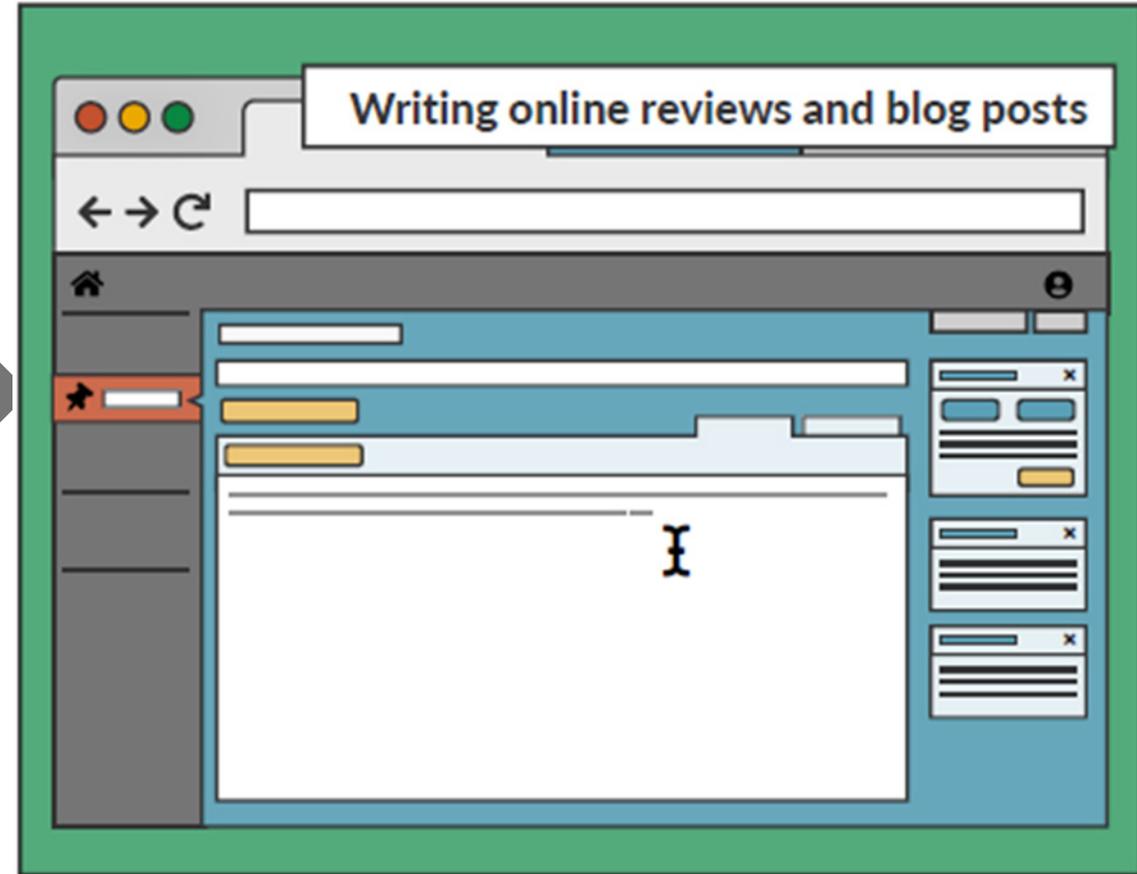
Creativity

Generating new or original thoughts, interpretations, products, works, or techniques



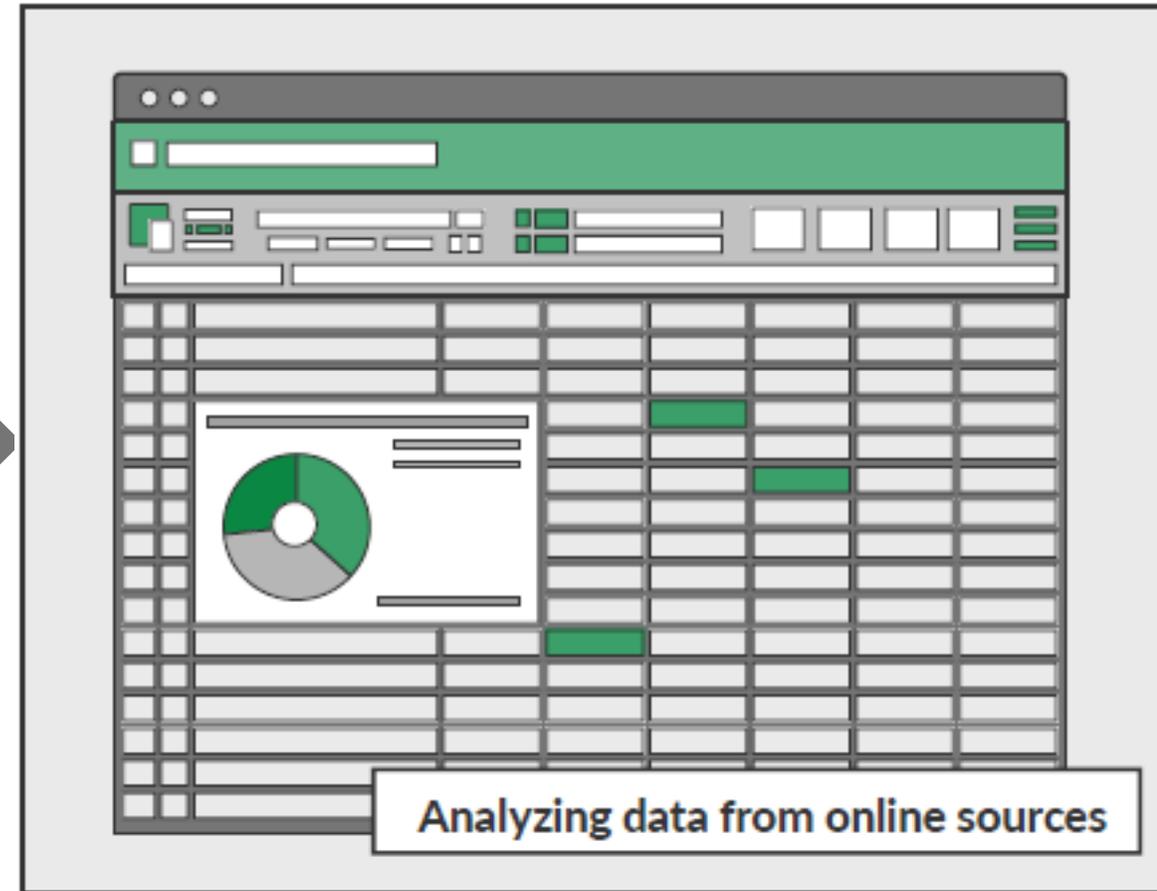
Complex Communication

Sharing information through multiple means, leading to an accurate exchange of information and ideas



Critical Thinking

Accessing and analyzing key information to develop solutions to complex problems that may have no clear answer



Purpose of Study

To determine the classroom practices, teacher perceptions, and challenges related to ed-tech use in rural schools



Research Questions

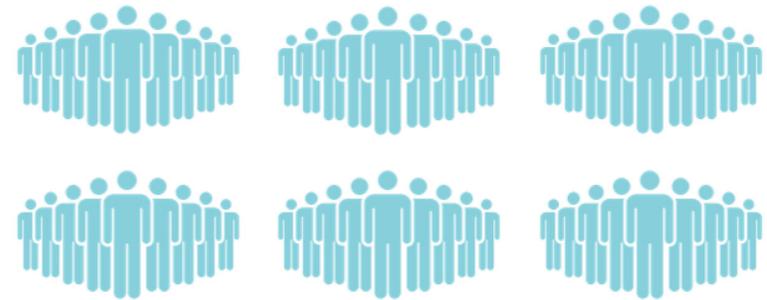
- How frequently do teachers ask students to use technology in ways that promote 21st century skills?
- Do teachers perceive that technology enhances learning?
- How confident are teachers in their ability to select/use ed-tech?
- How much does professional development support teacher use of technology for instruction?
- How much do schools provide technology infrastructure and support?



Participants

26 schools in Central Rivers Area
Education Agency (AEA) (out of 54)

524 teachers (out of 800)



Data Source



Survey Administration

Schools received the Clarity Teaching and Learning Module **prior to the study** and decided whether to use it.

Central Rivers AEA shared data from **all schools** that completed the survey in 2017.



Survey Topics

Research Question	Topics to Be Measured
1. How frequently do teachers ask students to use technology in ways that promote 21st century skills?	<ul style="list-style-type: none">• Frequency of computer use• Tech use aligned to 21st century skills (18)
2. Do teachers perceive that technology enhances learning?	<ul style="list-style-type: none">• Perceived benefits (3)
3. How confident are teachers in their ability to select and use educational technology?	<ul style="list-style-type: none">• Self-efficacy for technology integration (4)• Self-efficacy for tech use (9)

Survey Constructs

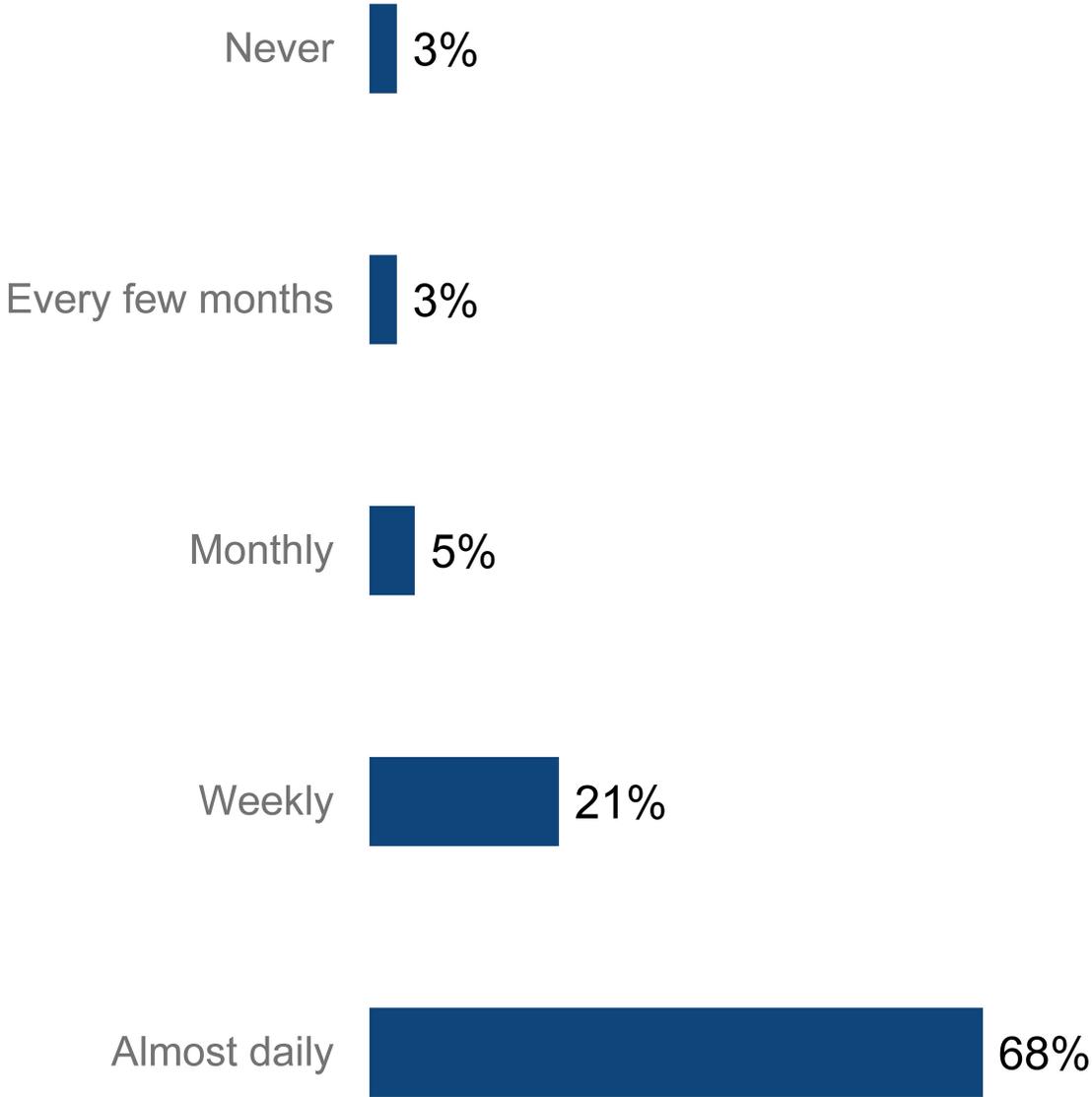
Research Question	Constructs to Be Measured
4. How much does professional development support teacher use of technology for instruction?	<ul style="list-style-type: none">• Professional development time (3)• Professional development quality (3)
5. How much do schools provide technology infrastructure and support?	<ul style="list-style-type: none">• Frequency of technology discussions (3)• Technical support (7)• Internet access policy (1)• Access to devices (1)

Major Findings



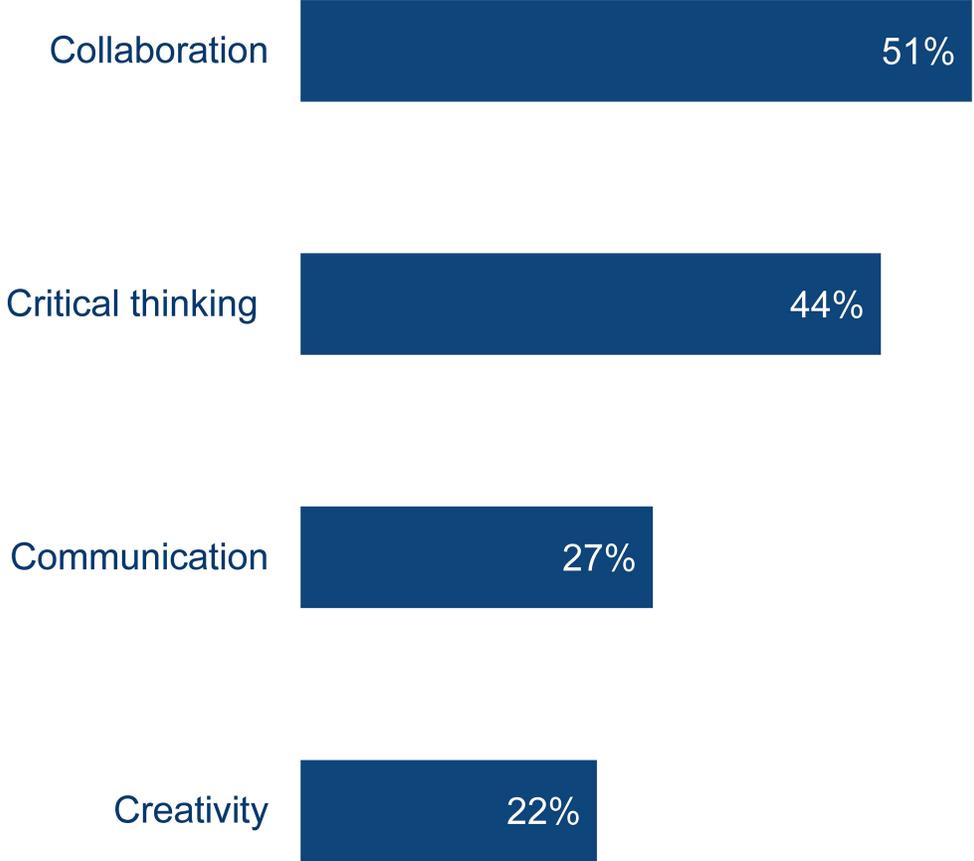
Technology Use of All Types

Most teachers report that students use technology in the classroom almost daily or weekly.



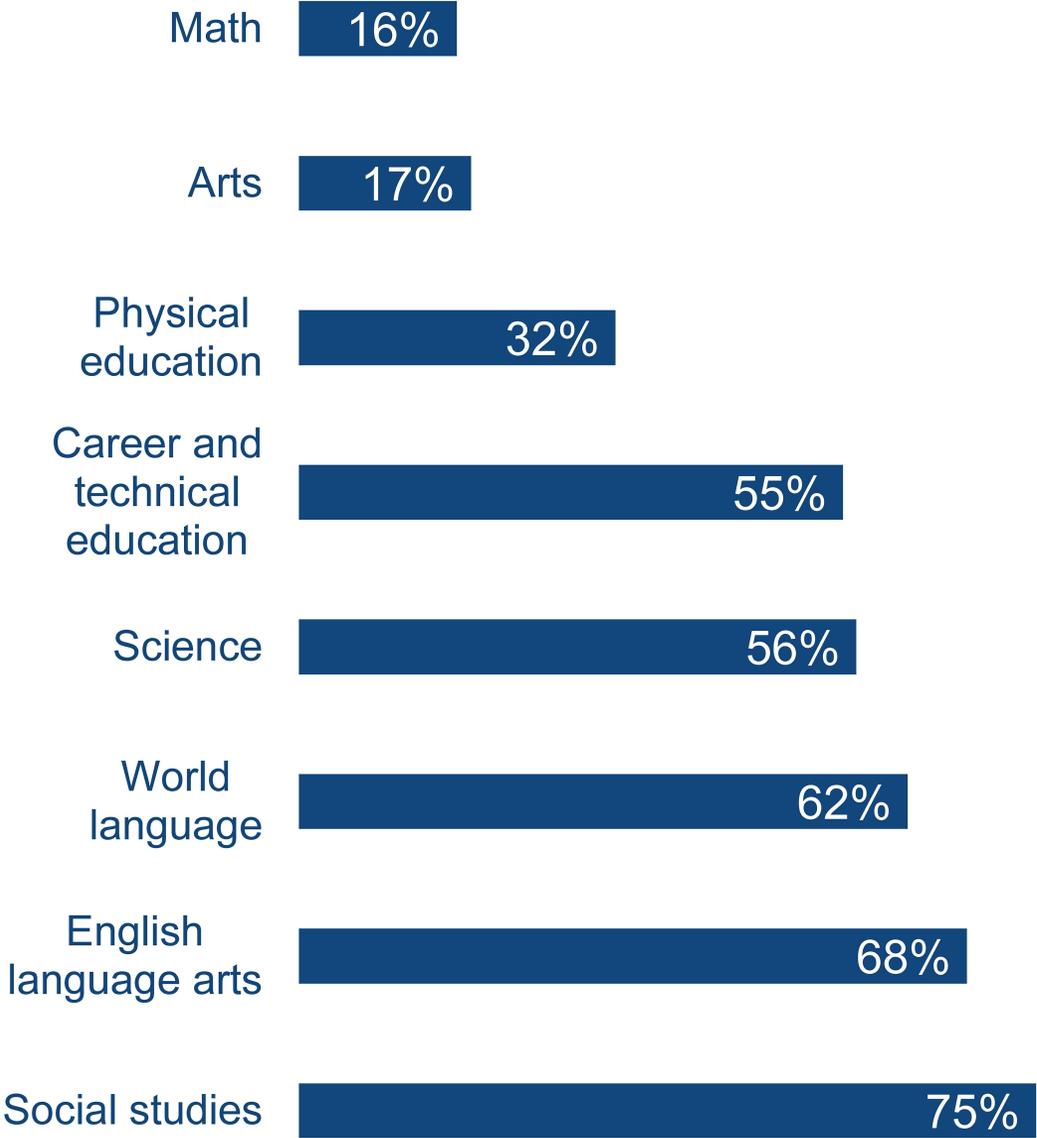
Technology Use for 21st Century Skills

44% to 51% of teachers asked students to use technology for collaboration and critical thinking, while 22% to 27% asked students to use technology for communication and creativity.



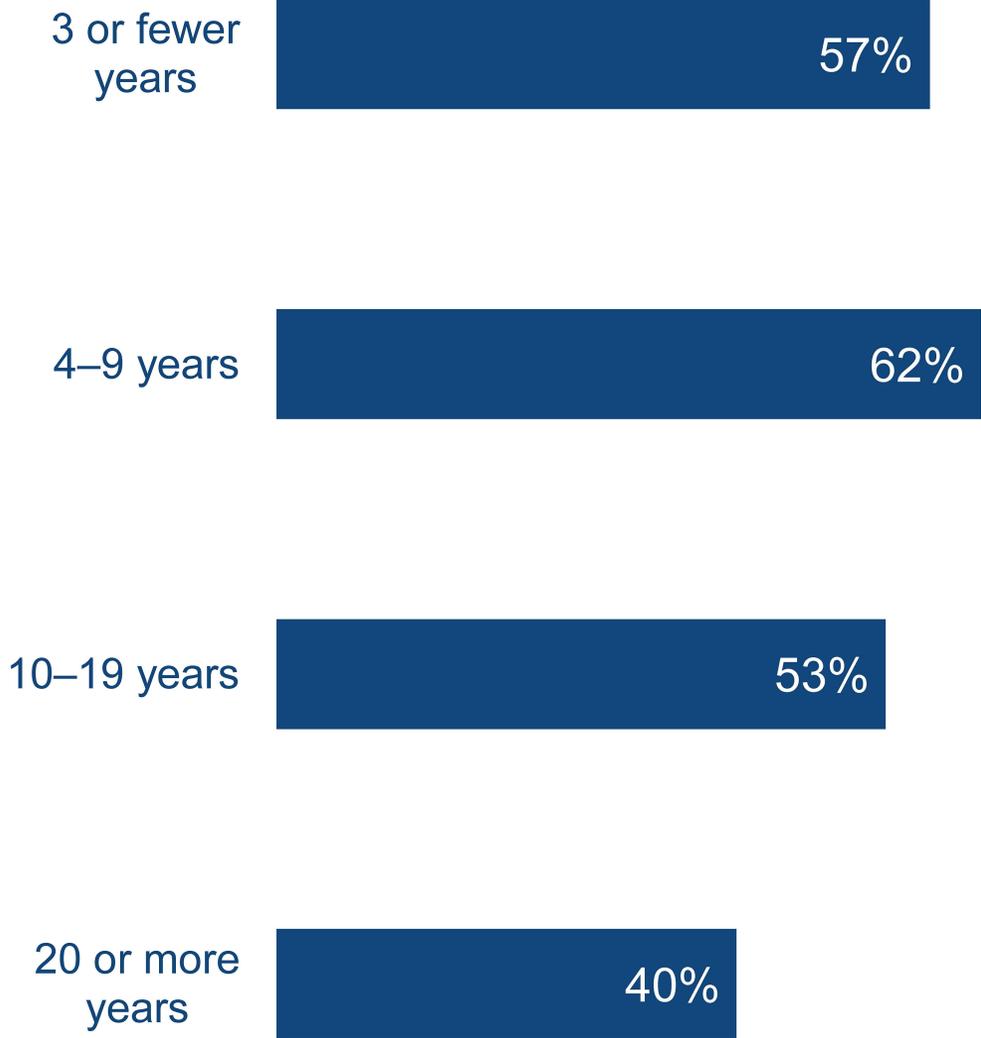
Technology Use by Subject Area

Math teachers were the least likely to ask students to use technology for communication, collaboration, and creativity.



Technology Use by Experience Level

Teachers with four to nine years of teaching experience were more likely than teachers with 20 or more years of teaching experience to ask students at least monthly to use technology for collaboration and creativity.



Positive Attitudes Toward Technology

78% of teachers agreed or strongly agreed that technology enhances student learning and that they have the ability to integrate technology with instruction.

Perceived enhancement of student learning



Perceived ability to integrate technology



School Supports

93% of teachers reported having access to computers for student use.

64% of teachers reported that technical support is above average or excellent.

37% of teachers rated the quality of technology-focused professional development as above average or excellent

Technical support quality

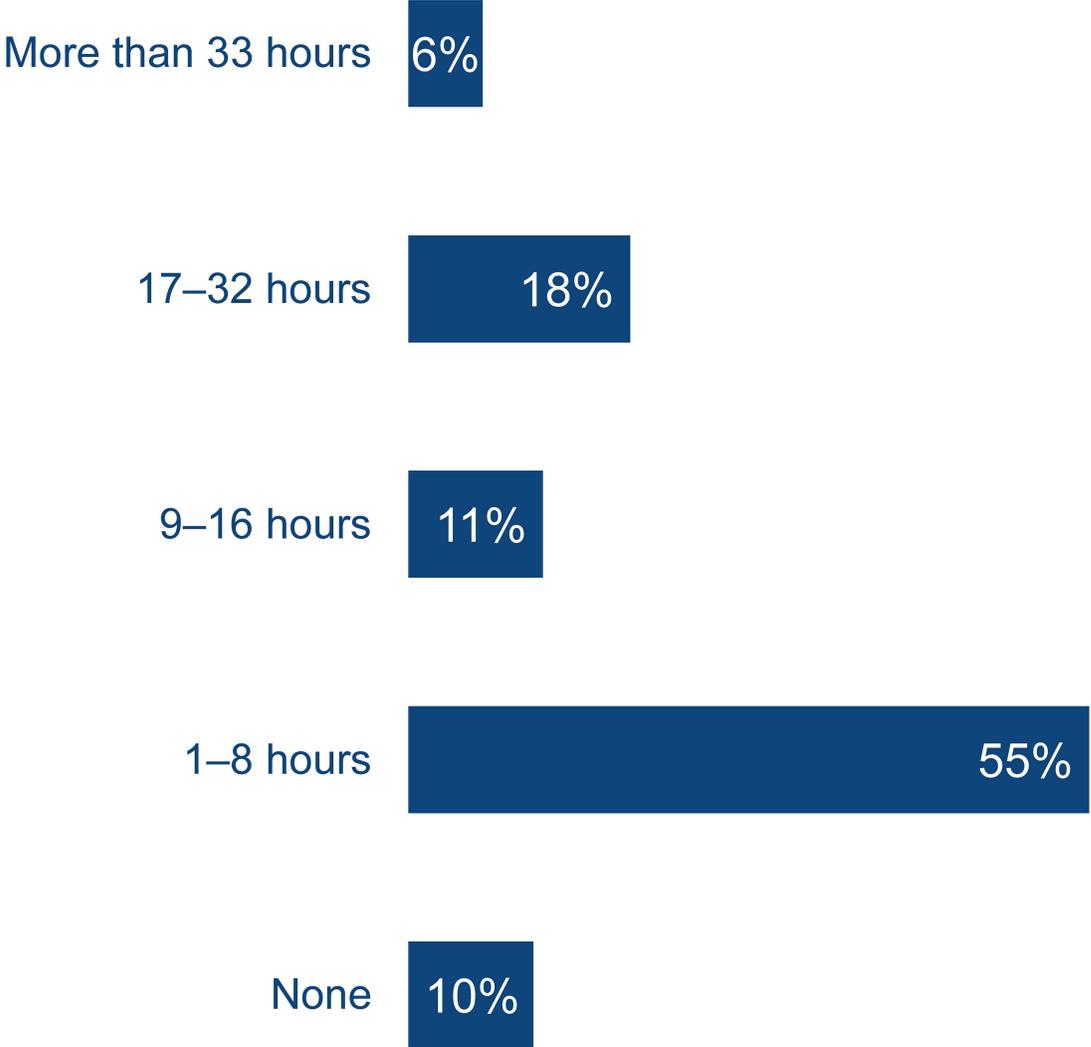
64%

Professional development quality

36%

School Supports

More than half of teachers reported spending one to eight hours in technology-focused professional development during the past year



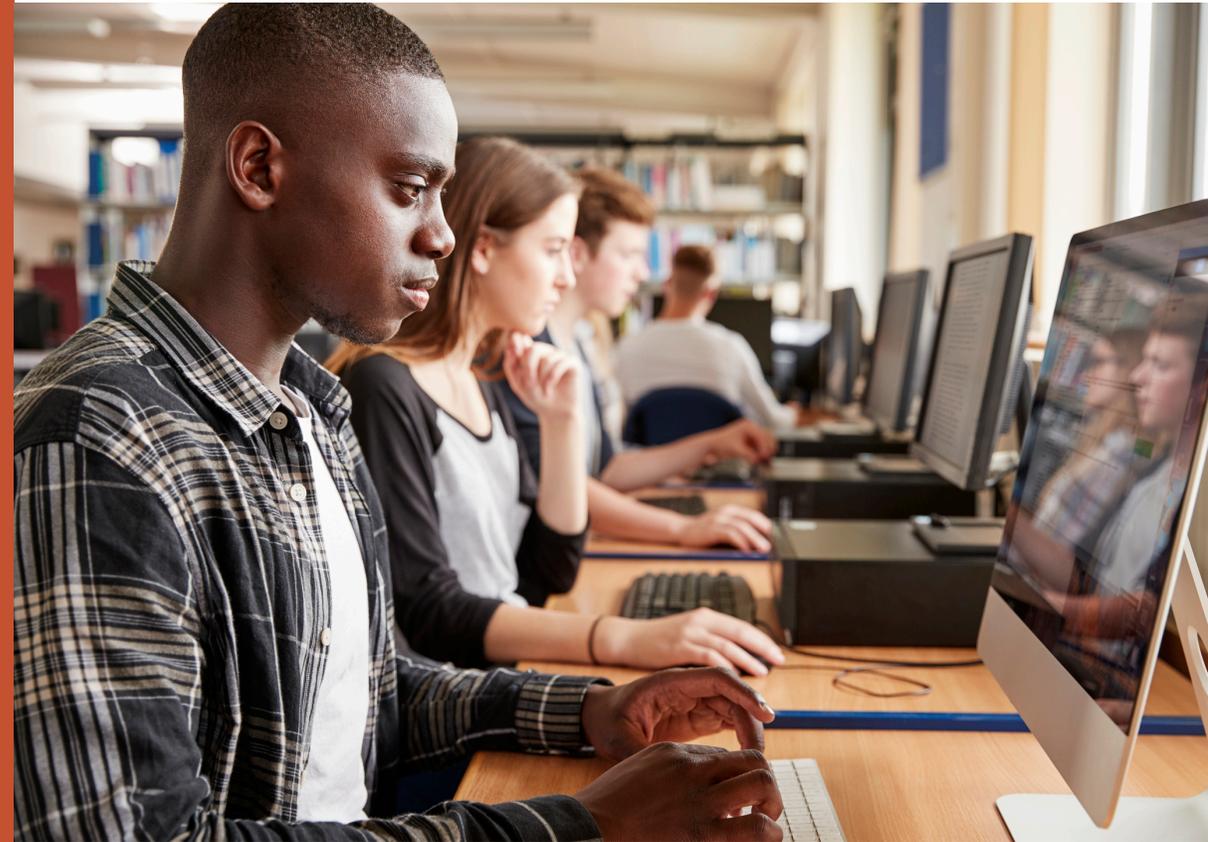
Implications



Technology Use

Although teachers use classroom technology frequently, they are not consistent in using it in ways that support the development of 21st century skills.

Teachers may need additional support and encouragement.



School Supports

Math teachers in particular may need additional professional development on how to use technology to address specific learning objectives.

Teachers with three or fewer years of teaching experience or more than 20 years of experience may need additional training on technology use.



School Supports

School leaders could offer *sustained* approaches to technology-focused professional learning embedded in teachers' ongoing professional responsibilities rather than *intermittent* approaches.



Panel Discussion

Practitioner Perspective on Instructional Technology Adoption

Meet Our Panelists



Kay Schmalen

*Educational
Services
Consultant,
Central Rivers
AEA*



Cari Teske

*Integrated
Learning
Specialist,
Central Rivers
AEA*



Jeremy Mize

*Secondary
Instructional
Coach, BGM
Community
School District*

Panel Discussion

What are your initial impressions of the research findings?

Panel Discussion

What can you take away from this study and act on right away?

Question and Answer Session

Type questions in the Chat box.

Thank you!



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