Let’s find out who is attending today

Please select your role:

- CTE instructor
- Guidance counselor
- School administrator
- District administrator
- State administrator
- Other

Increasing the reach of career and technical education (CTE)

Regional Educational Laboratory (REL) Midwest

October 27, 2021

Virtual Meeting/Conference Recording Notice

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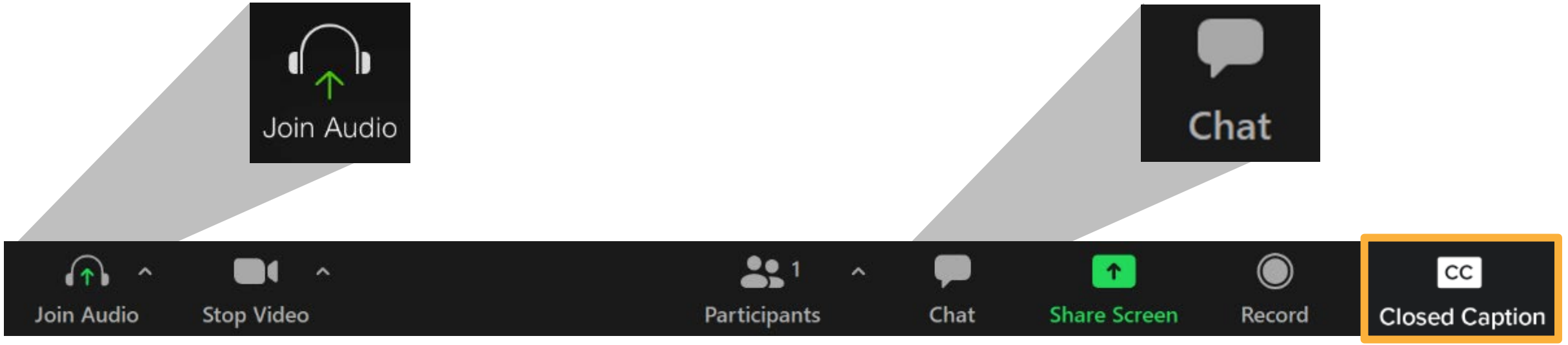
- If you aren't already connected to audio, click Join Audio in the Zoom toolbar.
- You have the option to dial into the phone line or listen through computer audio.
- Click on the Chat box to ask questions for the presenters or let us know about any technical issues.
- Closed captioning is available.



Meet the presenters

Emily Loney

Senior Researcher
REL Midwest

Megan Austin, PhD

Senior Researcher
REL Midwest

Yinmei Wan, PhD

Senior Researcher
REL Midwest

Troy Haugen

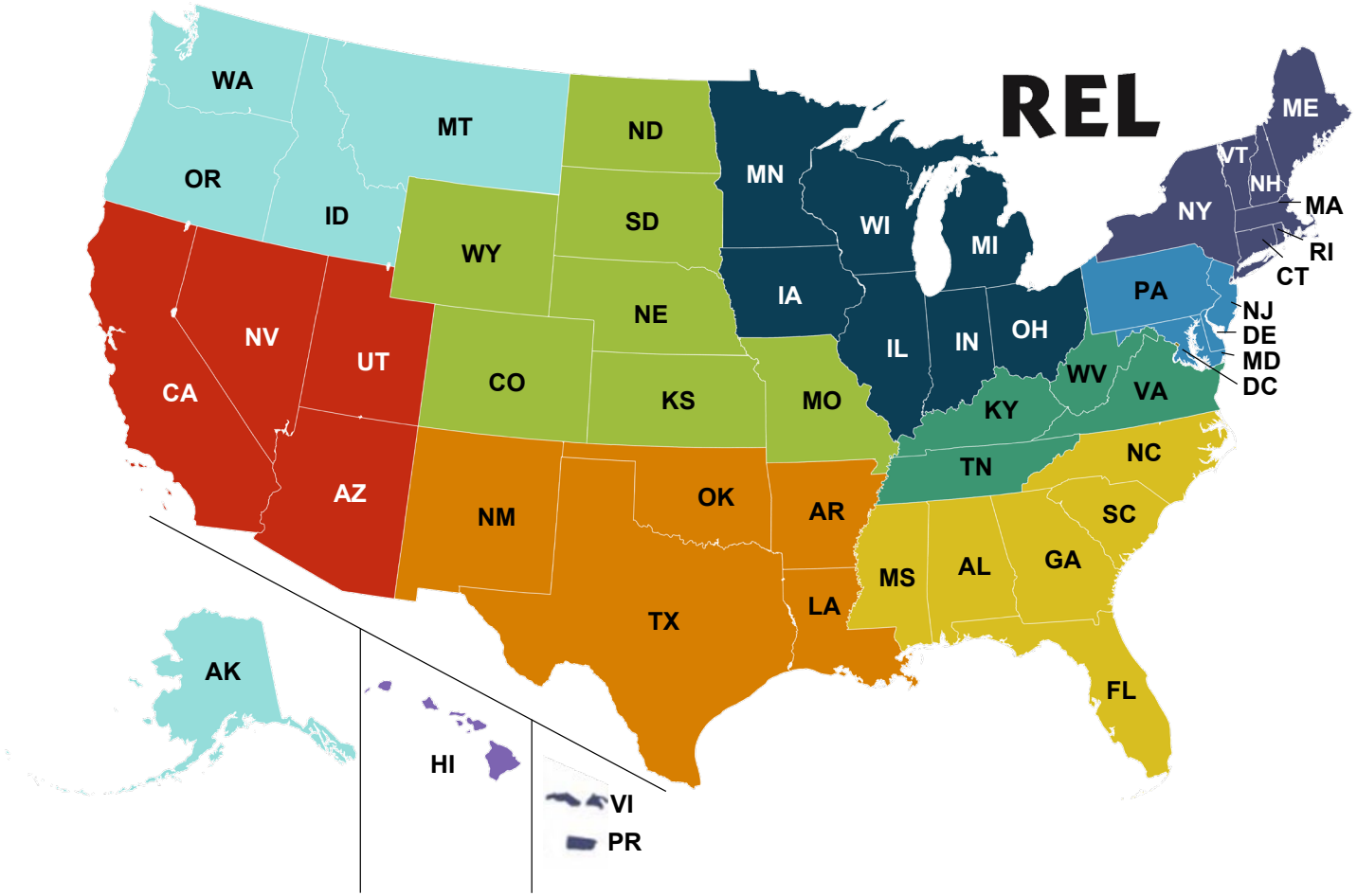
Director of College and Career Readiness
Lakes Country Service Cooperative (Minnesota)

Agenda

1. Welcome and overview
2. REL Midwest research presentation: *Characteristics and outcomes for Indiana and Minnesota high school students who focused on career and technical education*
3. Practitioner reflections on the REL Midwest study findings
4. Question-and-answer session
5. Wrap-up and closing remarks

Welcome and overview

Regional Educational Laboratories



- Appalachia
- Central
- Mid-Atlantic
- Midwest
- NE & Islands
- NW
- Pacific*
- SE
- SW
- West

* The Pacific Region contains Hawaii, pictured on the map, and American Samoa, the Commonwealth of the Northern Mariana Islands, the Federated States of Micronesia (Chuuk, Kosrae, Pohnpei, & Yap), Guam, the Republic of the Marshall Islands, & the Republic of Palau, not pictured on the map.

How does REL Midwest do this work?

REL Midwest conducts our work through collaborative research partnerships with stakeholders in seven states.

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

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

Midwest Career Readiness Research Alliance (MCRRA)

- Focus on improving college and career readiness in Minnesota using research and data
- Provided training for Indiana and Minnesota counselors on postsecondary pathways for CTE students
- Created a documentary on career readiness for rural students

Indiana and Minnesota Students who focused on career and technical education in high school: Who are they, and what are their college and employment outcomes?

Megan Austin

Senior Researcher
REL Midwest

Yinmei Wan

Senior Researcher
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Meet the research team

Jim Lindsay, PhD

Principal Researcher
REL Midwest

Megan Austin, PhD

Senior Researcher
REL Midwest

Yinmei Wan, PhD

Senior Researcher
REL Midwest

Jingtong Pan, PhD

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REL Midwest

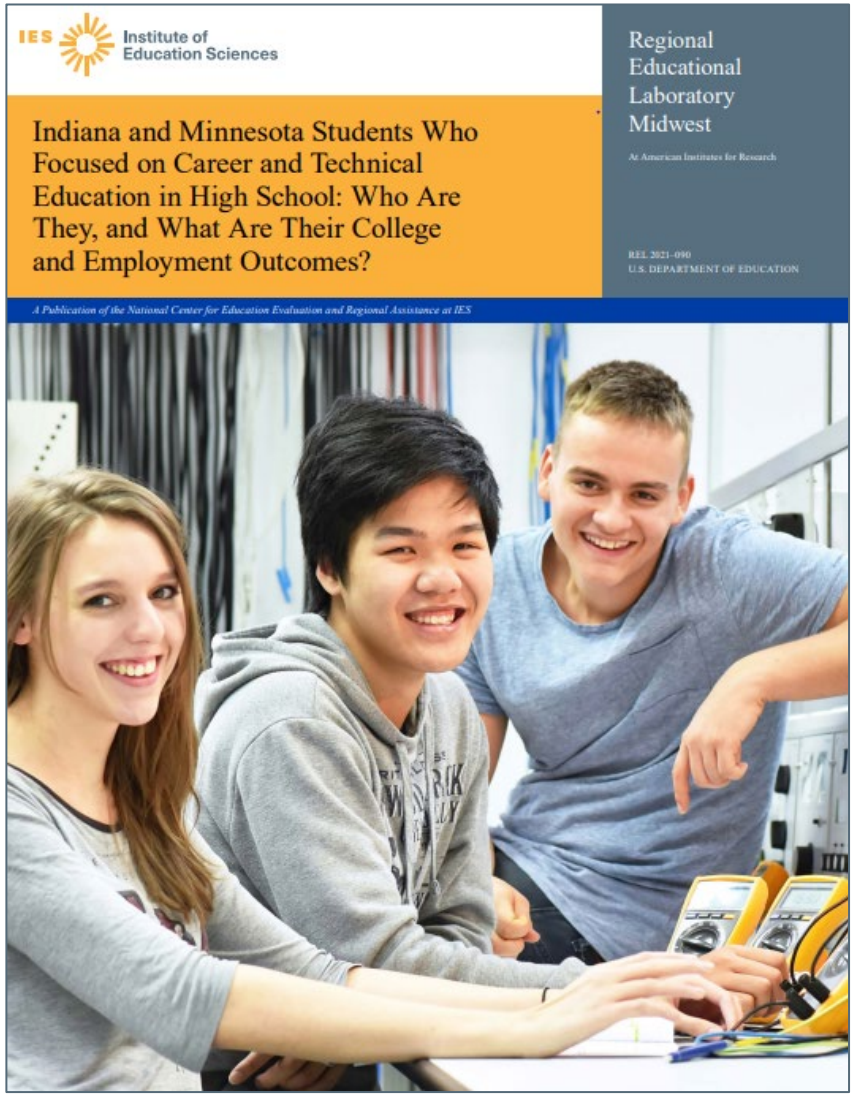
Max Pardo

Researcher
REL Midwest

Research questions

What did this study examine?

1. What percentage of high school graduates were CTE **concentrators, explorers, samplers, and nonparticipants**?
2. What **background characteristics** of high school graduates and their high schools are associated with being a CTE concentrator?
3. How does being a CTE concentrator affect high school graduates' **college enrollment** and **degree attainment**?
4. How does being a CTE concentrator affect high school graduates' **employment** and **earnings**?



Data and methods

What data did the study use?

The study used K−12 education data, postsecondary education data, and employment data for all students who graduated from **Indiana** public high schools between **2013/14 and 2017/18** and from **Minnesota** public high schools between **2012/13 and 2017/18**.

K–12 Education Data

Student courses taken
Student demographic characteristics
Student achievement test scores (grade 8)
School characteristics

Postsecondary Education Data

College enrollment
College graduation
Progress in college (credits attained)
National Student Clearinghouse data (students attending private colleges in the state and out-of-state colleges)

Employment Data

Employment in the state
Quarterly wages

How we addressed research question 1

What percentage of high school graduates were CTE **concentrators, explorers, samplers,** and **nonparticipants**?

We defined four levels of CTE participation and examined trends in participation:

	 Concentrator	 Explorer	 Sampler	 Nonparticipant
Indiana	Completed at least **6 semester credits** in a single CTE pathway	Completed at least 6 semester credits in CTE but less than 6 credits in any specific pathway	Completed less than 6 semester credits in CTE	Completed no semester credits in CTE
Minnesota	Completed at least **150 hours** (2 semesters) in a CTE career field	Completed at least 150 hours (2 semesters), but less than 150 hours in any specific CTE career field	Completed more than 1 hour but less than 150 hours in CTE	Received no instruction in CTE

How we addressed research question 2

What **background characteristics** of high school graduates and their high schools are associated with being a CTE concentrator?

We cross-tabulated CTE classifications with the background characteristics of graduates and their high schools.

- Differences of **5 percentage points** were considered meaningful.

How we addressed research question 3

How does being a CTE concentrator affect high school graduates' **college enrollment** and **degree attainment**?

1. We constructed **matched comparison groups.**
   - Concentrators versus nonparticipants and samplers
   - Explorers versus nonparticipants and samplers
2. We examined differences in college outcomes between matched groups.

Enrollment	Credits Earned	Completion
• Enrolled in a two-year or four-year college one year after high school graduation. • Enrolled in a two-year or four-year college anytime between graduation and 2018/19.	• Credits earned in the first year of college. • Total credits earned in college.	• Certificate earned. • Associate degree earned. • Bachelor's degree earned.

How we addressed research question 4

How does being a CTE concentrator affect high school graduates' **employment** and **earnings**?

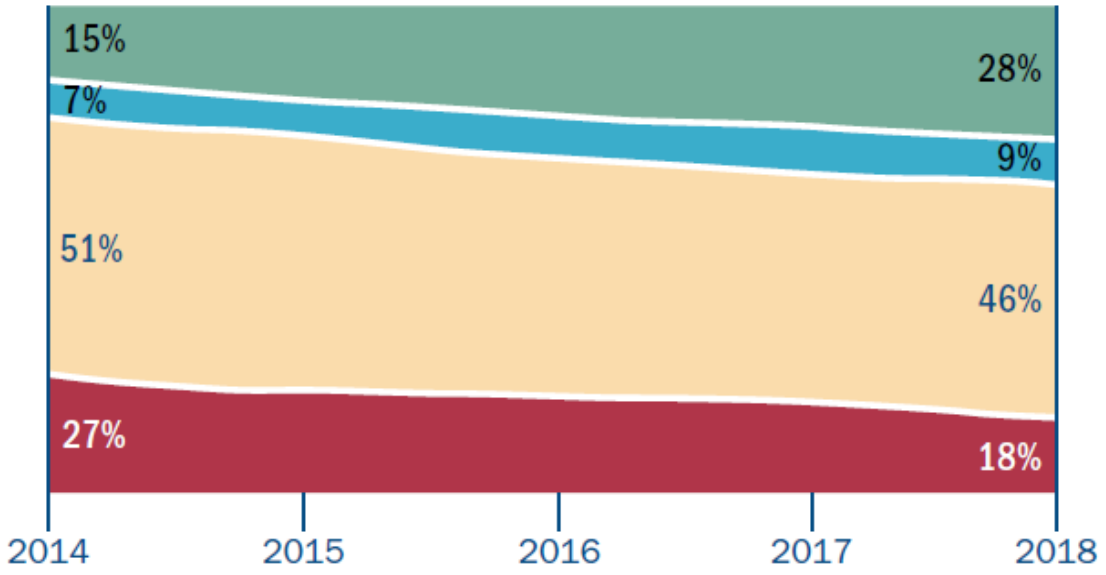
1. We used the same **matched comparison groups.**
   - Concentrators versus nonparticipants and samplers
   - Explorers versus nonparticipants and samplers
2. We examined differences in employment outcomes between matched groups.

Employment	Earnings
Whether the graduate was employed in each of the first five years after high school	Annual wages earned in each of the first five years after high school

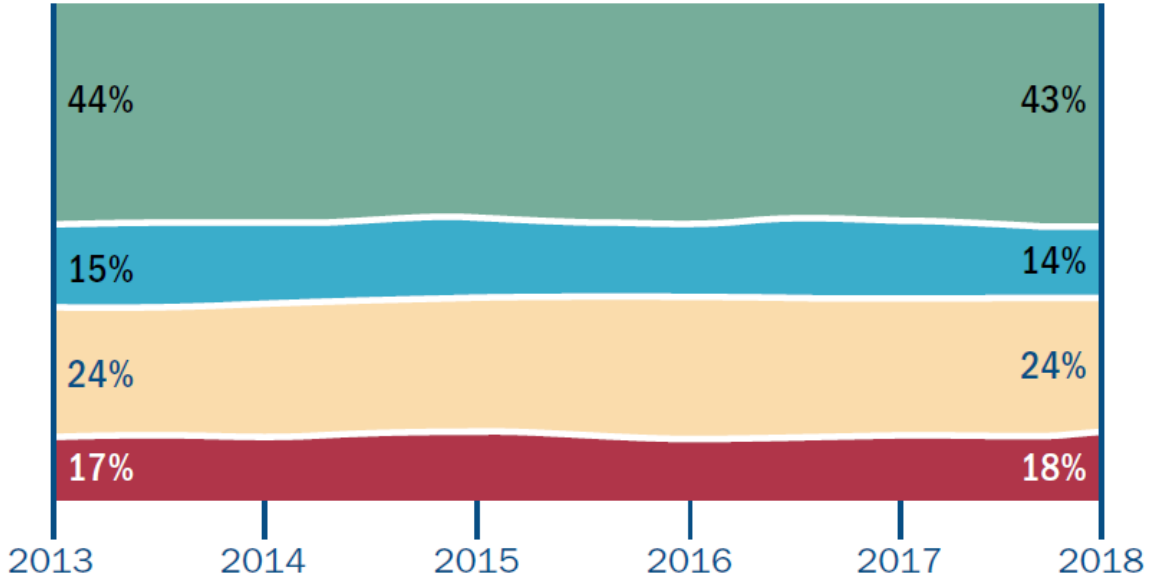
Research question 1: What percentage of high school graduates were CTE concentrators, explorers, samplers, and nonparticipants?

Indiana and Minnesota showed different patterns of CTE participation over time

Participation in Indiana increased over time



Participation in Minnesota remained consistent over time



Concentrators | Explorers | Samplers | Nonparticipants

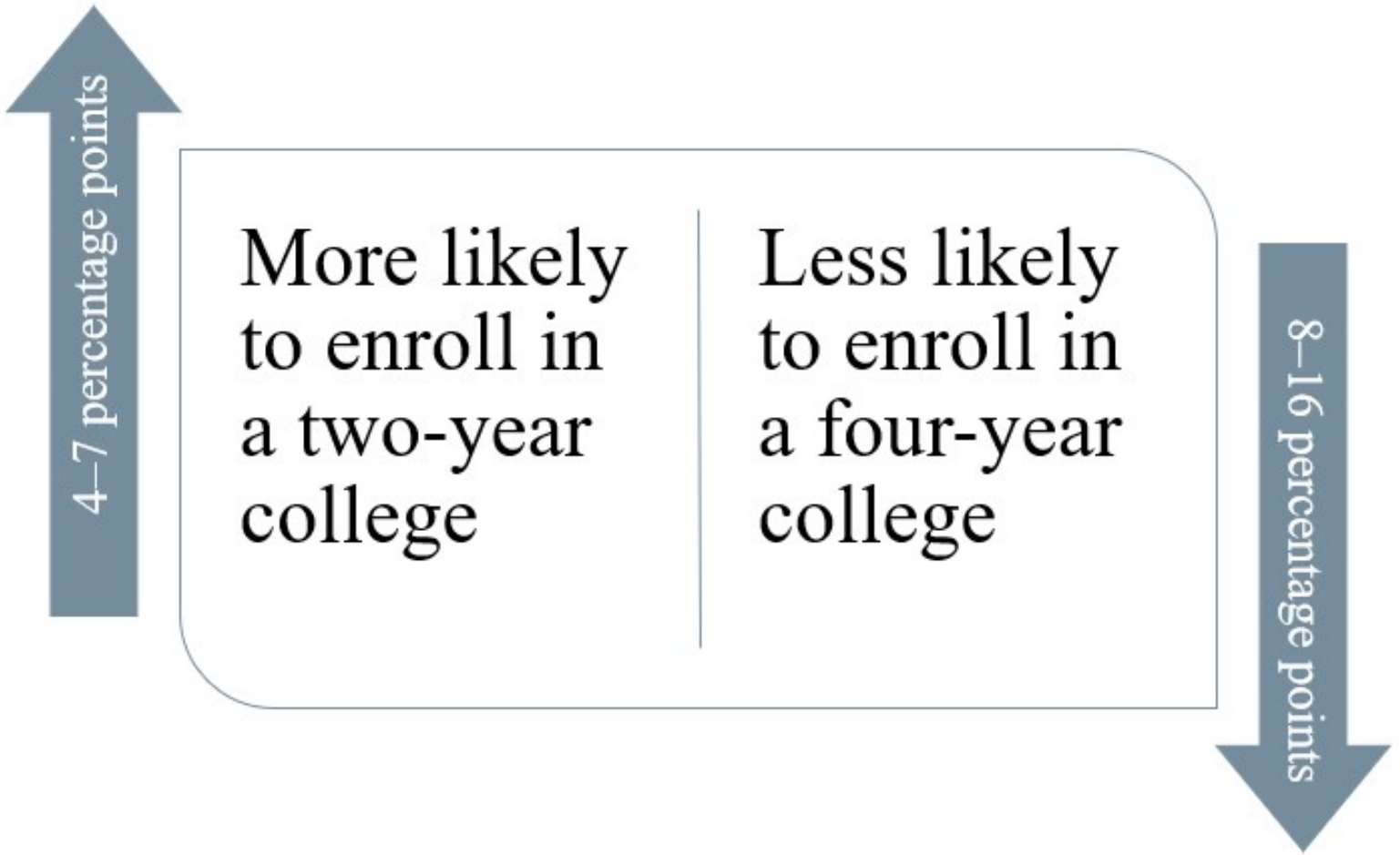
Research question 2: What background characteristics of high school graduates and their high schools are associated with being a CTE concentrator?

In both states, graduates in **urban and suburban** areas were less likely to be concentrators and more likely to be nonparticipants than graduates in **towns and rural** areas.

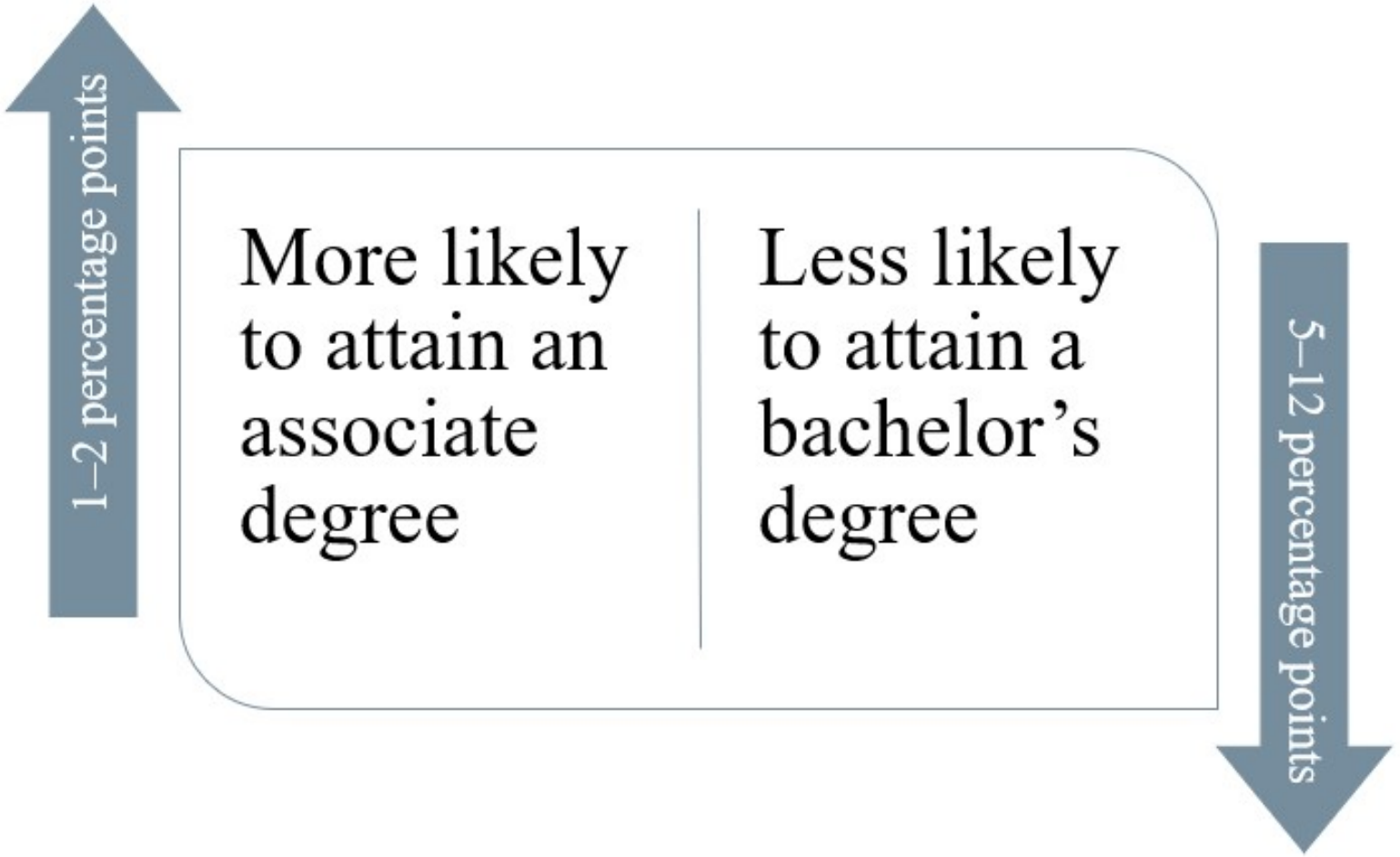
In both states, **male** graduates, graduates who received **special education** services, and graduates who were **not proficient** in reading in grade 8 were more likely than their peers to be concentrators.

Research question 3: How does being a CTE concentrator affect high school graduates' college enrollment and degree attainment?

College enrollment within one year of high school graduation: Concentrators compared to similar samplers and nonparticipants

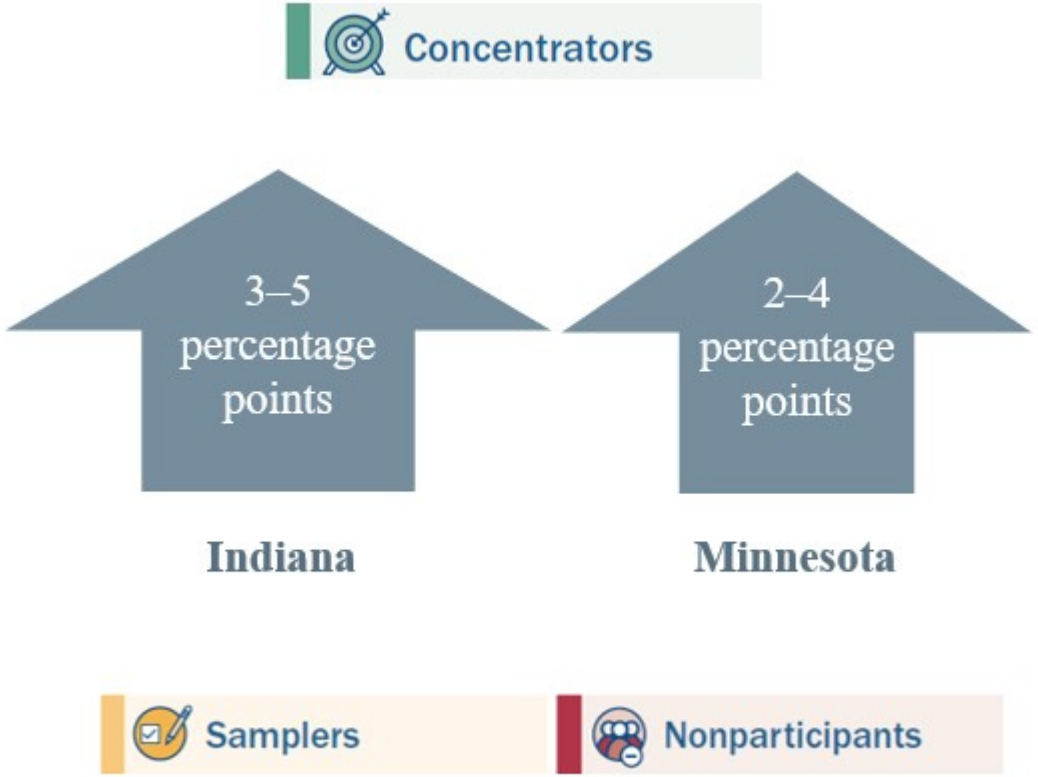


College completion outcomes: Concentrators compared to similar samplers and nonparticipants

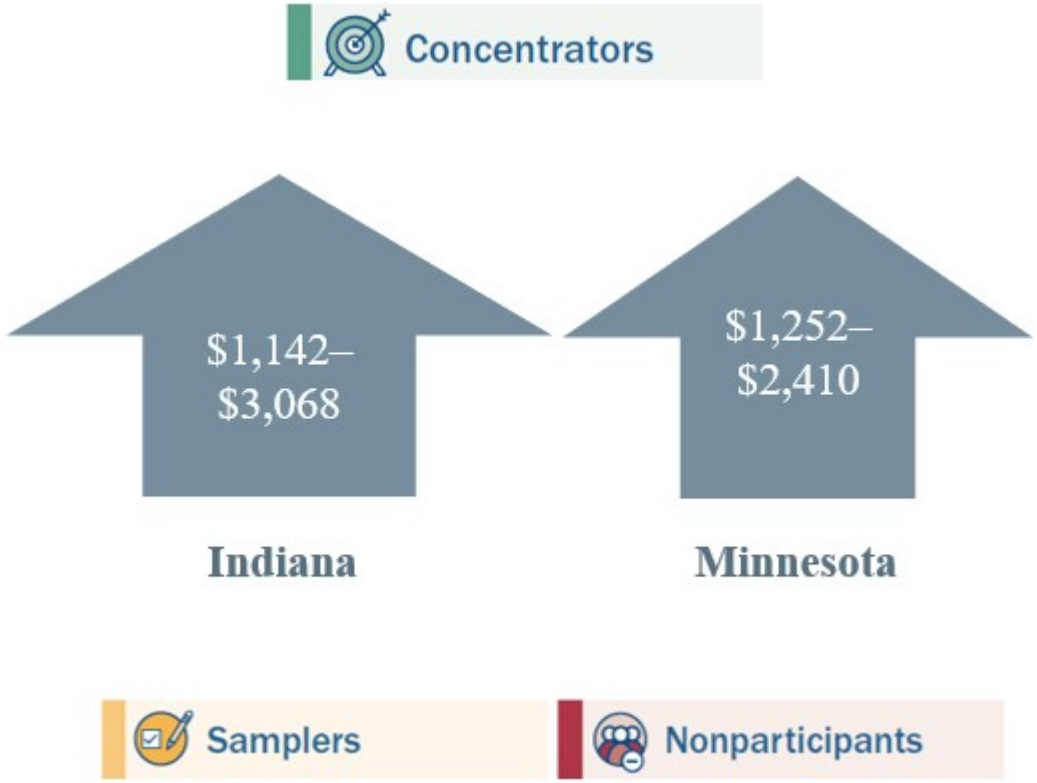


Research question 4: How does being a CTE concentrator affect high school graduates' employment and earnings?

In both states, concentrators were more likely than similar samplers and nonparticipants to be employed during the first five years after graduation.



In both states, concentrators had higher annual earnings than similar samplers and nonparticipants during the first five years after graduation.



Study limitations and implications

Limitations

- Postsecondary credit attainment could be examined for Minnesota colleges and universities only.
- Our focus on high school graduates may mask other effects of being a CTE concentrator.
- Matching of similar students was limited to data available in state longitudinal data systems (match rate for concentrators is 91 percent in Indiana and 63 percent in Minnesota).
- Findings are limited to the first five years after high school.

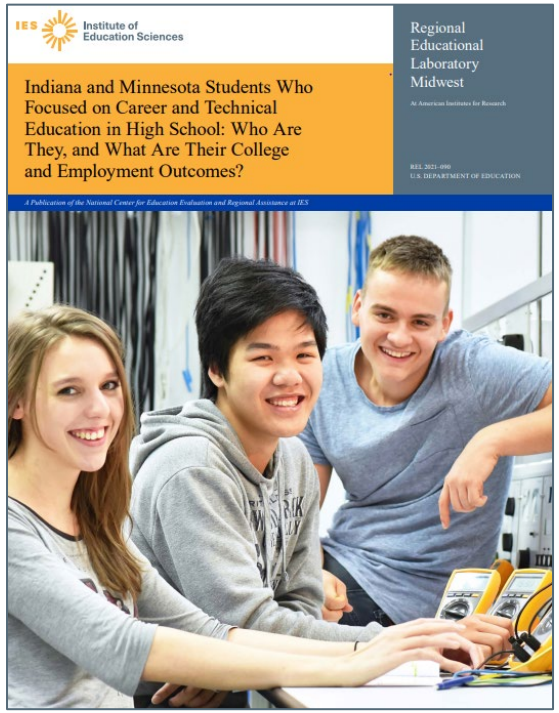
Implications

- Education leaders might want to explore reasons for associations between student and school characteristics and students' decisions to become CTE concentrators.
- High school teachers and guidance counselors can use the findings to help inform students' selection of courses.
- Results can be expanded on in future research that examines not only how results vary for students concentrating in different career fields, but also students' longer term college and workforce success.

Questions?

Where to find the report

https://ies.ed.gov/ncee/edlabs/projects/project.asp?projectID=4655



Contact information

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Practitioner reflections on the REL Midwest study findings

Reflections on the study findings

- How does student debt, which is not captured by earnings data, factor into the postsecondary picture?
- What counts as CTE?
- Are CTE opportunities aligned with workforce needs?
- What can educators do to support students in CTE?

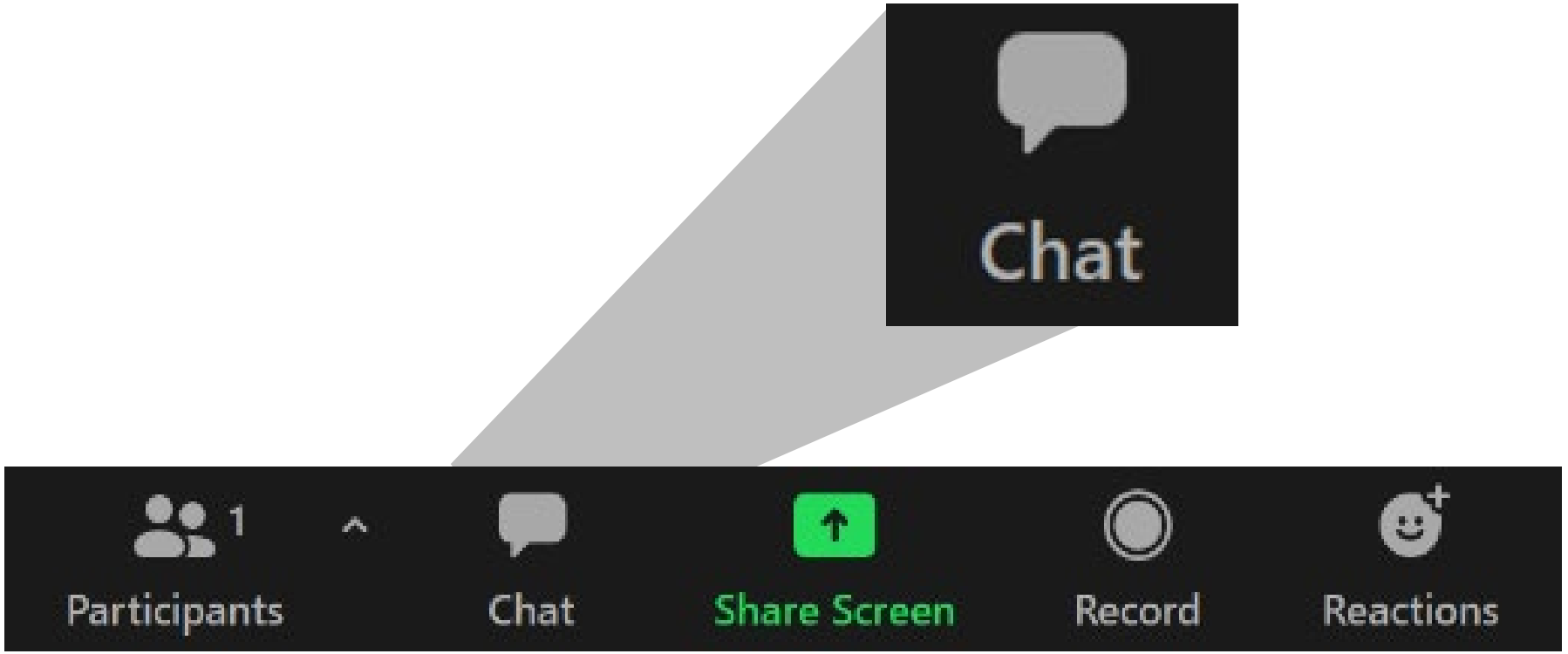
Takeaways for teachers, counselors, and school leaders

- Prepare students for the next generation of careers.
- Ask students what they need and what they think.
- Focus on preparing students for high-skill, high-demand, and high-earning careers.

Question-and-answer session

Question-and-answer session

- Use the Chat box to submit a question.



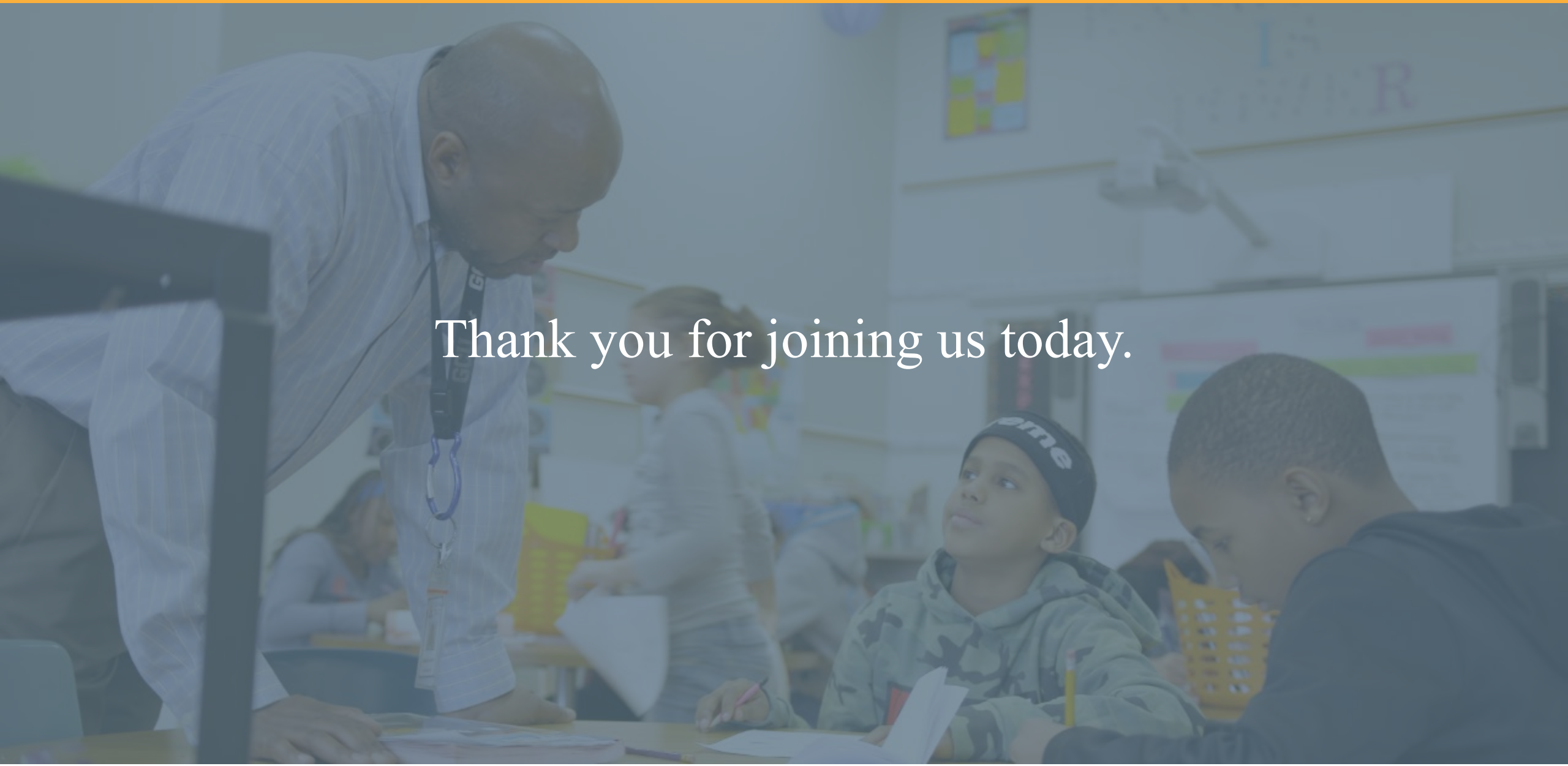
Wrap-up and closing remarks

Please complete our short survey to share your feedback.

The link is in the Chat box and the survey also will pop up automatically when you close the Zoom webinar platform.

Wrap-up and closing remarks

Don’t miss our next webinar


Thank you for joining us today.