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The Educational Research Alliance of Northern Virginia at George Mason University: ERA.NOVA

January 31, 2025

Welcome!

Meeting Agenda

- Welcome
- ERA.NOVA's Shared Purpose
- AI Use in PK-12 Education
- Looking Ahead

Our Mission: ERA.NOVA

Educational Research Alliance of Northern Virginia (ERA.NOVA) is dedicated to harnessing our collective resources to address key challenges in our region and measurably contribute to improved conditions for the education community, and in turn, to equitably impact the quality of life for students, families, and our shared society.

ERA.NOVA Overview

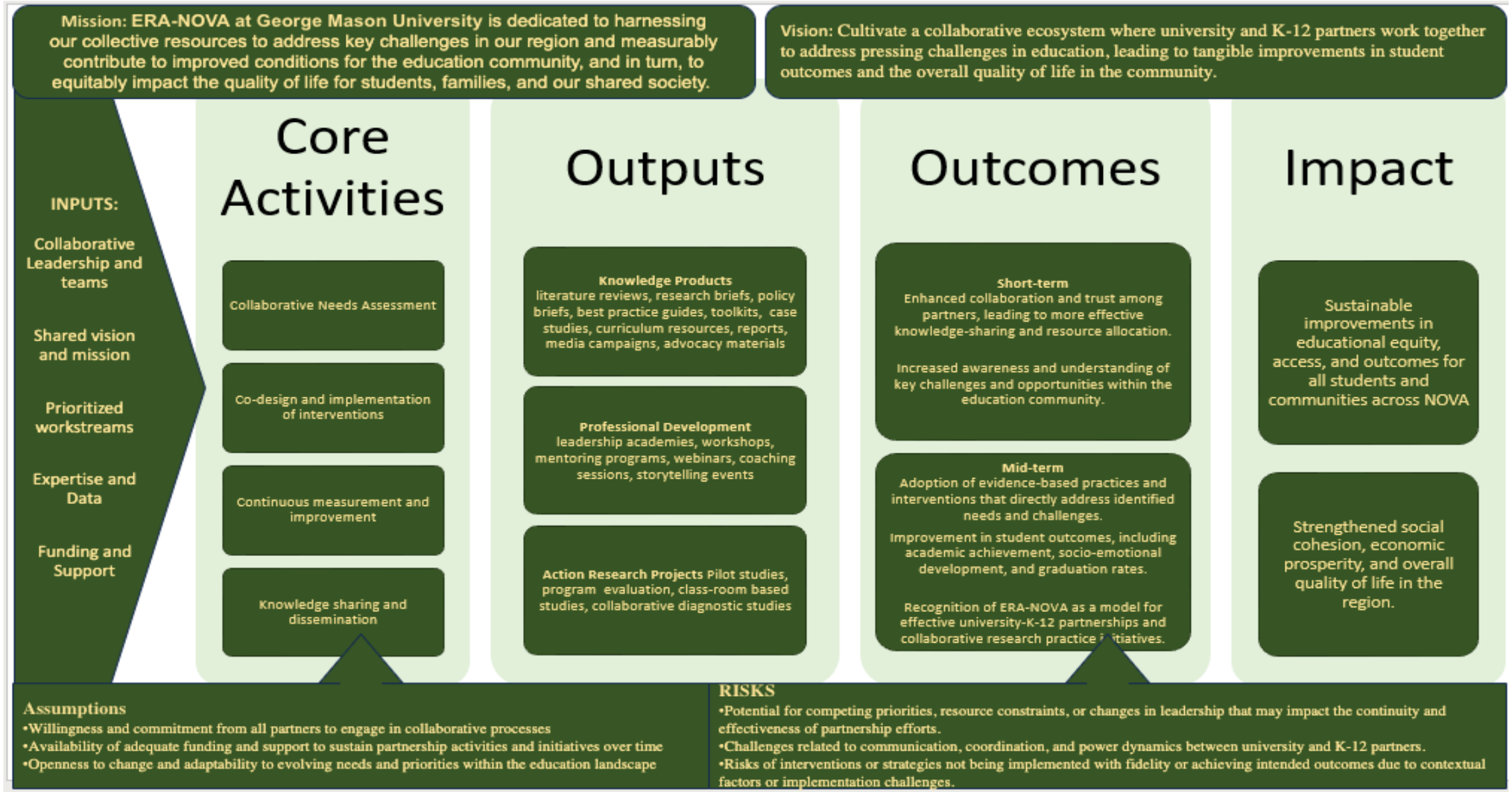
Purposeful Collaboration through a Research Practice Partnership

- Focused on **consequential research** driven by **problems of practice** - i.e., actionable and timely research that the school systems can use
  - Consider the complexity **of real-world educational issues**, centered on people and community needs

- Engage **diverse forms of expertise and perspectives**, across practitioners, scholars, and organizations, around pressing problems of practice and/or policy.
  - School systems as **co-creators** and collaborators of action research with university colleagues

- **Share insights** into the processes, practices, and policies that improve education for learners, educators, families, communities, and institutions
  - **Transformational, not transactional** processes and outputs

ERA.NOVA Theory of Change Framework



How Do We Engage In This Work? ERA.NOVA's Theory of Change Outputs

- **Knowledge Products**
  - Lit reviews, research briefs, practice briefs, reports, guides, toolkits, advocacy tools, panel discussions
- **Professional Development**
  - Leadership academies, workshops, webinars, coaching seminars
- **Action Research Projects**
  - Pilot studies, program evaluation, collaborative diagnostic studies, classroom-based studies

Updates

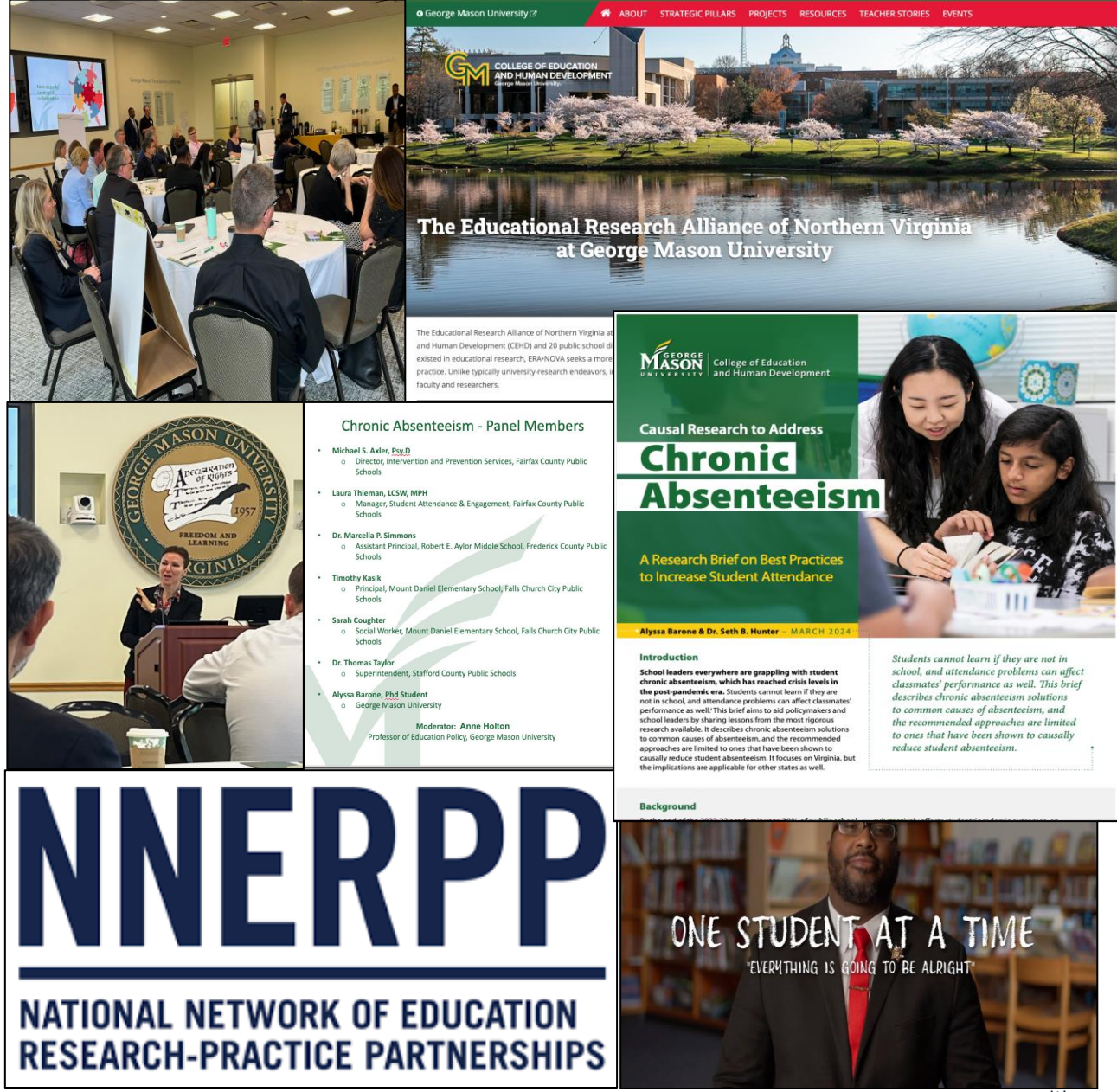
ERA.NOVA Website: https://era.cehd.gmu.edu/

ERA.NOVA Resources: https://era.cehd.gmu.edu/resources

Workstream Potential Projects (Slide 8)

Action Research Problems of Practice

- Model of a data sharing agreement
- Problem of practice identification; expertise and funding capacity



Prioritized ERA.NOVA Workstreams

Building Teacher and Leader Capacity

Work Stream 1
Leadership development

Work Stream 2
Recruitment and retention

Work Stream 3
Science of Reading/Math teaching and learning

Education Community Well-Being

Work Stream 4
Educator and Student well-being

Creating a New Narrative

Work Stream 5
Creating narrative impact by reshaping opinion and perception

Ongoing measurement and equity lens

AI in PK-12 Education

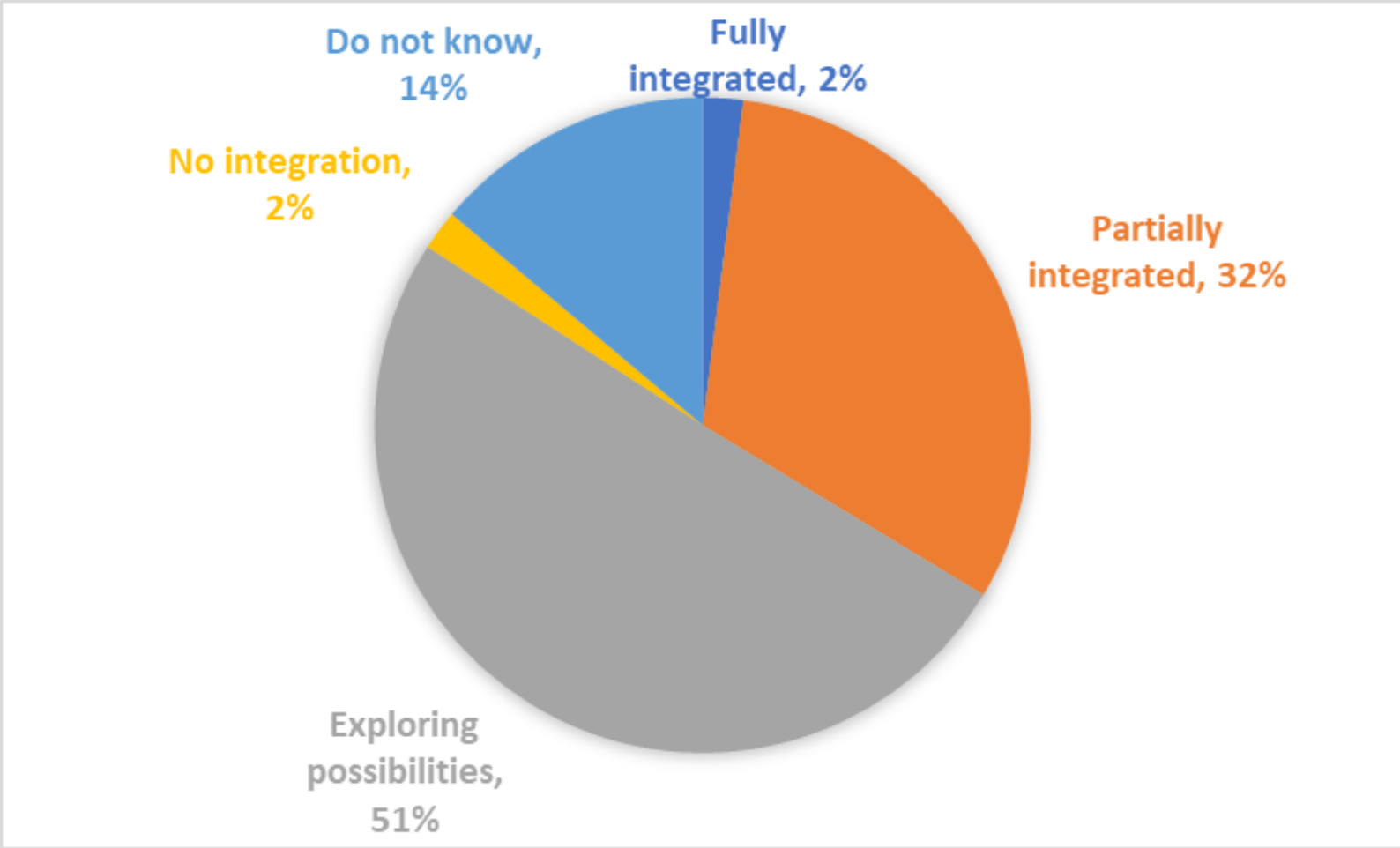
Risks, Possibilities, and Implementation Strategies

Dr. Elizabeth Davis & Dr. Jered Borup

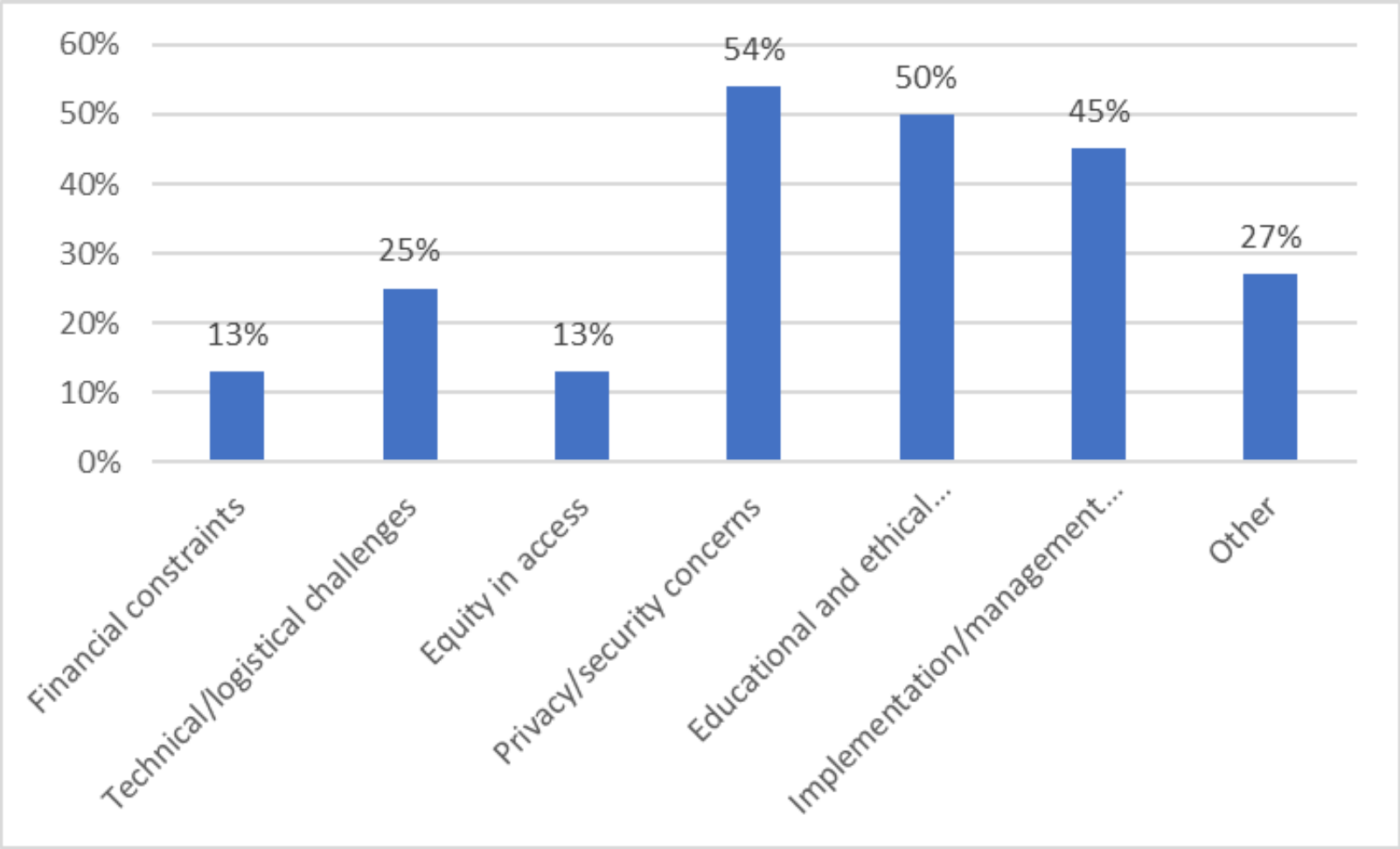
Agenda: AI Use in PK-12 Education

- Survey results and research brief
- How are divisions using AI?
- Myths and Facts of AI
  - Table discussions
- AI Tools - Uses and Limitations
  - Table discussion and share out
- AI Implementation and Partnerships
  - Table discussion and share out
- Reflections and close out

Survey Results: What is the current level of AI integration in your division's educational strategies?



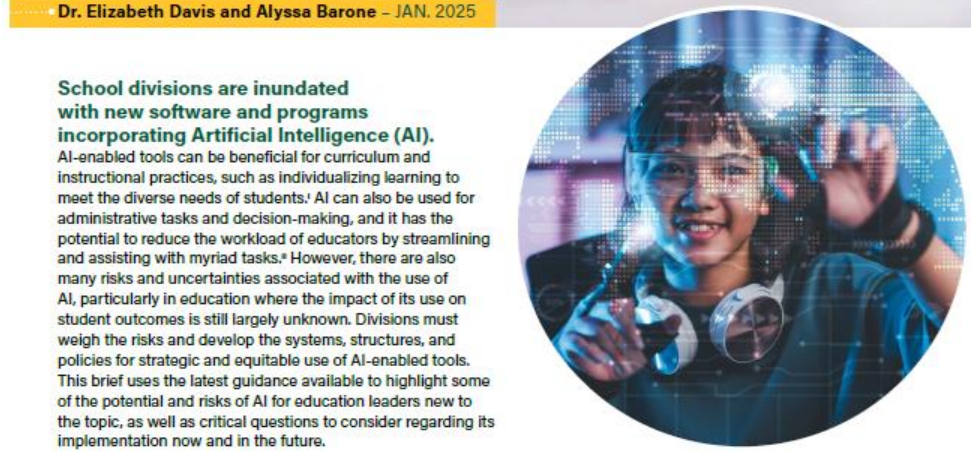
Survey Results: What are the major barriers for implementing AI in your division?



Other:

- Fast pace
- Time to train staff
- Integration into curriculum and instruction

We share cutting edge research and guidance on AI use in education



School divisions are inundated with new software and programs incorporating Artificial Intelligence (AI).
AI-enabled tools can be beneficial for curriculum and instructional practices, such as individualizing learning to meet the diverse needs of students.[1] AI can also be used for administrative tasks and decision-making, and it has the potential to reduce the workload of educators by streamlining and assisting with myriad tasks.[2] However, there are also many risks and uncertainties associated with the use of AI, particularly in education where the impact of its use on student outcomes is still largely unknown. Divisions must weigh the risks and develop the systems, structures, and policies for strategic and equitable use of AI-enabled tools. This brief uses the latest guidance available to highlight some of the potential and risks of AI for education leaders new to the topic, as well as critical questions to consider regarding its implementation now and in the future.

cehd.gmu.edu/assets/docs/edpolicyforward/AIEducationBrief.pdf

Some AI-enabled tools have the potential to address problems of practice

Possibilities

- Personalized learning
- Student assessments
- Assist with administrative tasks
- Improve the efficiency of systems and resource allocation

Support from AI-enabled Tools

- "Strategic Routing" by HopSkipDrive in Colorado Springs
  - Cut 45 routes, increased on-time arrival rate to 99%, and expects to save millions
- Intelligent Tutoring Systems (ITS)
  - Recognize steps students take to solve problems and offers real-time feedback
  - Research supports hybrid approach
- Alleviate workload on teachers
  - Generating assignments, finding material

There are still many unknowns and potential risks to consider when using an AI-enabled tool

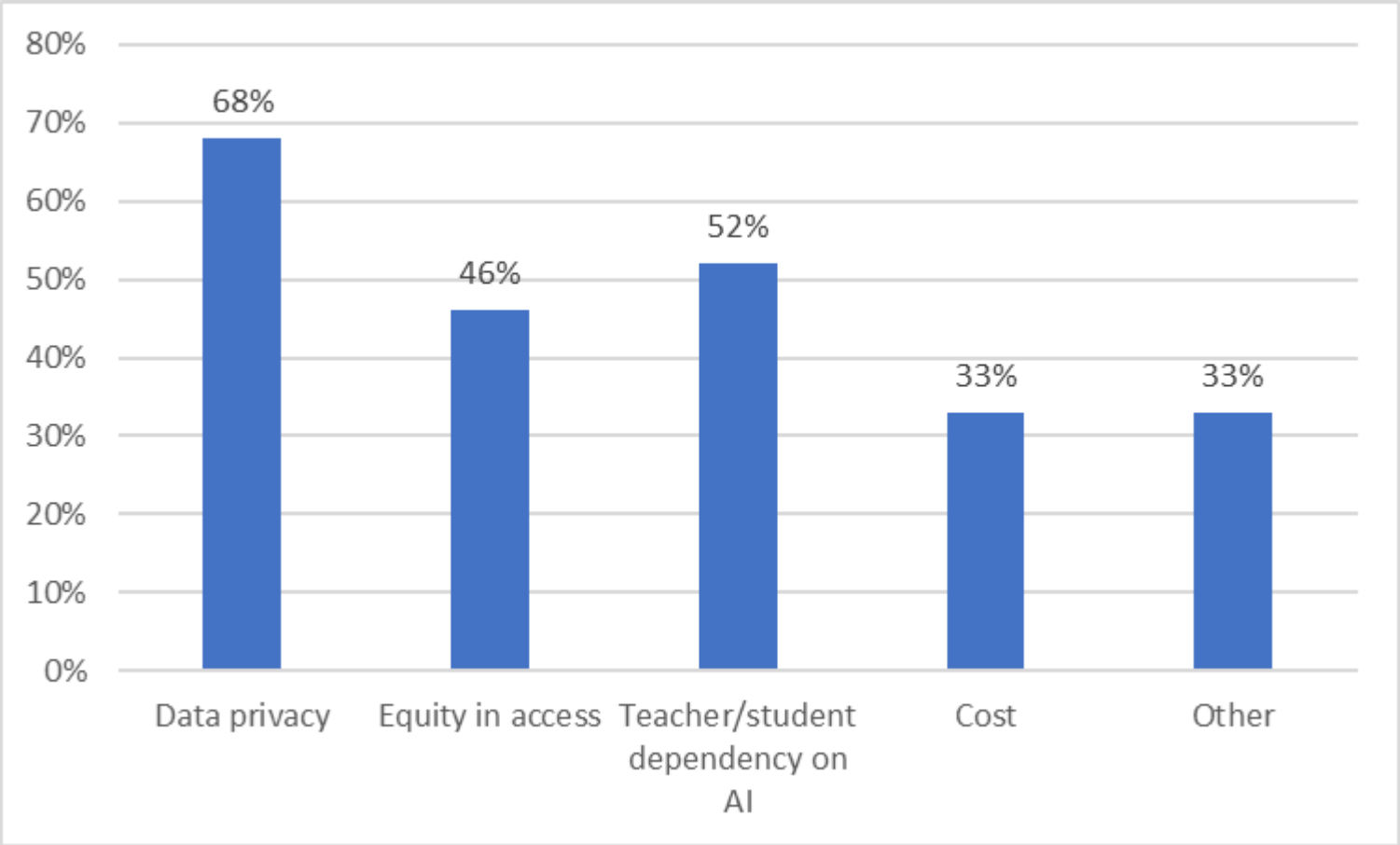
Risks & Uncertainties

- Costs
- Equity in access
- Data privacy and security
- Ethical considerations (bias, plagiarism)
- Quality of outputs

Cautionary Tales

- Unaware of use of AI tools (SDUSD)
  - Integration of English curriculum to an online platform
  - Included Writable and was used to grade student work
- District-wide chatbot (LAUSD)
  - Allowed access to student data
  - Abrupt closure and violation of privacy policies

Survey Results: What concerns, if any, do you have about integrating AI into K-12 education?



Other:

- Parental feedback
- Environmental
- Quality of outputs
- PD/staffing

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As school leaders navigate these potential challenges, what should they be asking?

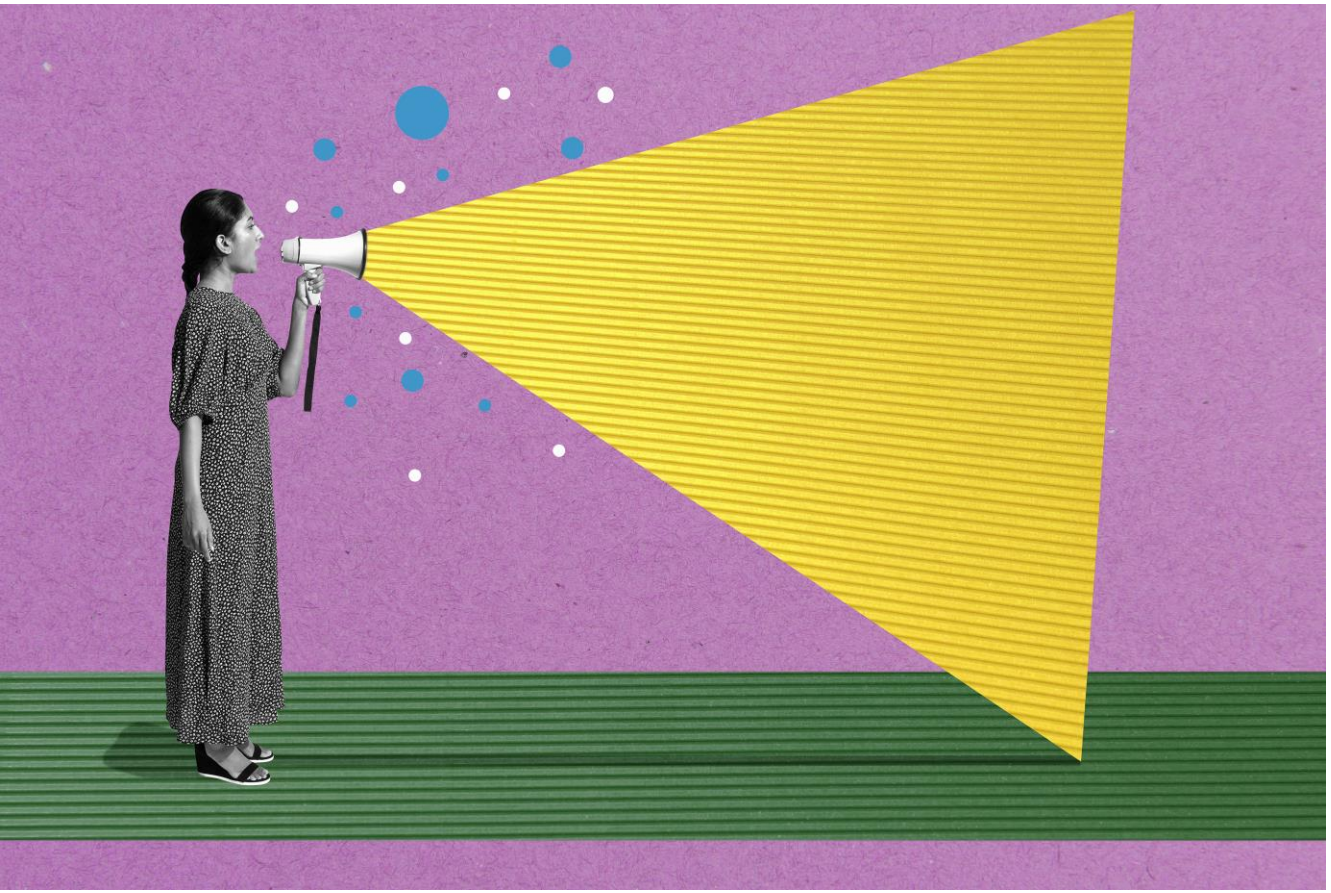
- Could this AI-enabled **tool cause harm** to students and educators?
- Will the tool be implemented for use by students, teachers or administrators? Are there **safeguards needed** specific to that user group?
- How can the tool be **piloted before scaling** districtwide?
- What **data infrastructure** is needed to leverage the full capabilities and functionalities of the AI-enabled tool while also **safeguarding student data and privacy?**
- What **professional development** is needed to implement this tool? How can divisions provide educators and administrators the time to test and build these tools into their curriculum and practice?
- What plans should be put in place for **contingencies**, including the program's potential failure?

Helpful Resources

- Learning resources from AIEP/GMU's AI for Education Policy and Equity Convening: cahmp.gmu.edu/learning-resources-for-aiep-october-8th-event/

- U.S. Department of Education, Office of Educational Technology's website includes numerous resources: tech.ed.gov/ai/

- The Virginia Secretary of Education provides "Guidelines for AI Integration throughout Education in the Commonwealth of Virginia": education.virginia.gov/media/governorvirginiagov/secretary-of-education/pdf/AI-Education-Guidelines.pdf



How are divisions thinking about and using AI?

FCCPS AI COHORT

Curriculum, Instructional, and Achievement Department

Vision of the FCCPS AI COHORT

Chief Academic Officer
Dr. William Bates

01. RESEARCH & DESIGN

02. TEAM

03. PROJECTS

04. OUTPUT

FALLS CHURCH CITY
PUBLIC SCHOOLS

METHOD

Research

Research highlights challenges in integrating AI into PreK–12 education, such as privacy concerns, resistance, and limited expertise, while emphasizing the importance of ethical solutions and practical applications. (Casal-Otero et al., 2023; Azzam & Charles, 2024)

Design

Our cohort addresses challenges in integrating AI into PreK–12 education—privacy concerns, resistance, and lack of expertise—by fostering stakeholder collaboration and building capacity for scalable, ethical, and practical AI solutions, aligning with research advocating professional development, interdisciplinary collaboration, and real-world applications (Casal-Otero et al., 2023; Azzam & Charles, 2024).

DIVERSE TEAM

Secondary Principal

Secondary History Teacher

Secondary Math Teacher

Secondary IB Coordinator

Primary Assistant Principal

Primary IB Coordinator

Central Office Leadership

Central Office Staff

PROJECTS

Technology-Enhanced Productivity in Public Education

SCRIPT WRITING

- reducing errors and increasing efficiency in data handling
- streamlined query function writing
- assist in conducting budget analysis across various platforms
- expanded technical capacity

DECISION MAKING

- support evidence-based planning
- provide alternative views
- decode email tone
- support to differentiated instructional materials by way of DIFFIT

CUSTOM GPTS

- foster IB District Alignment
- support educators curriculum development
- state legislature compliance
- enhance pedagogical methods of teacher based on non-identifiable student needs

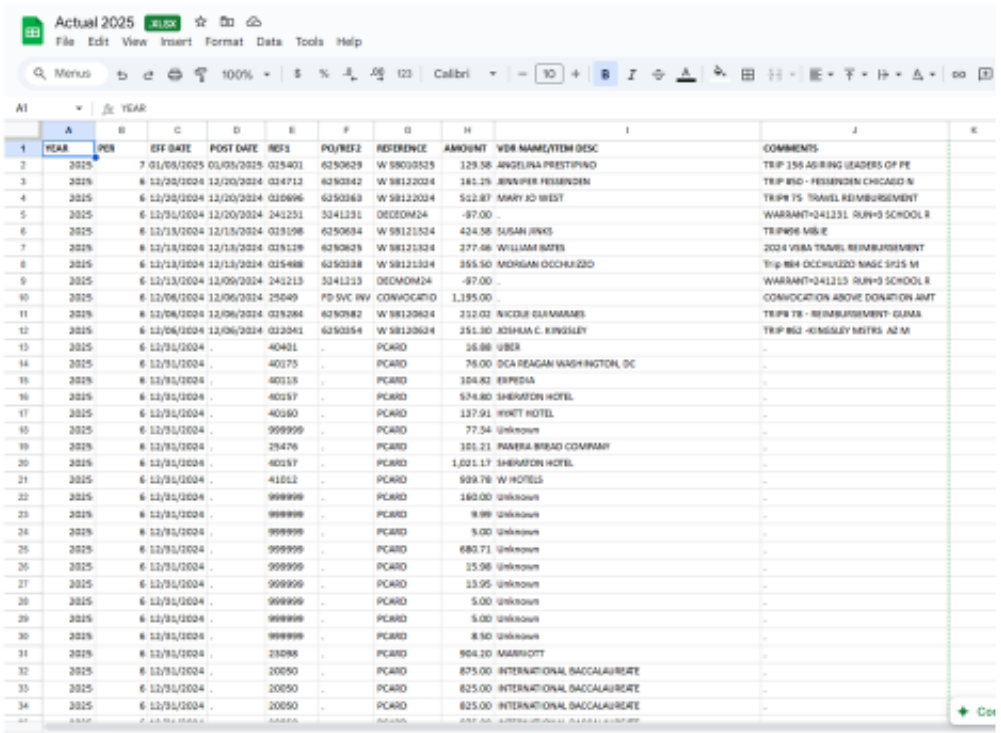
LESSON PLANNING

- address improvement for inclusivity & accessibility
- incorporating IB learner profiles
- suggestion for assessment integration
- promotes academic integrity priciples

OUTPUT

Enabling educators and administrators to focus on actionable insights rather than manual data processing.

Transform Raw Data into Comprehensive, High-Level Analyses.



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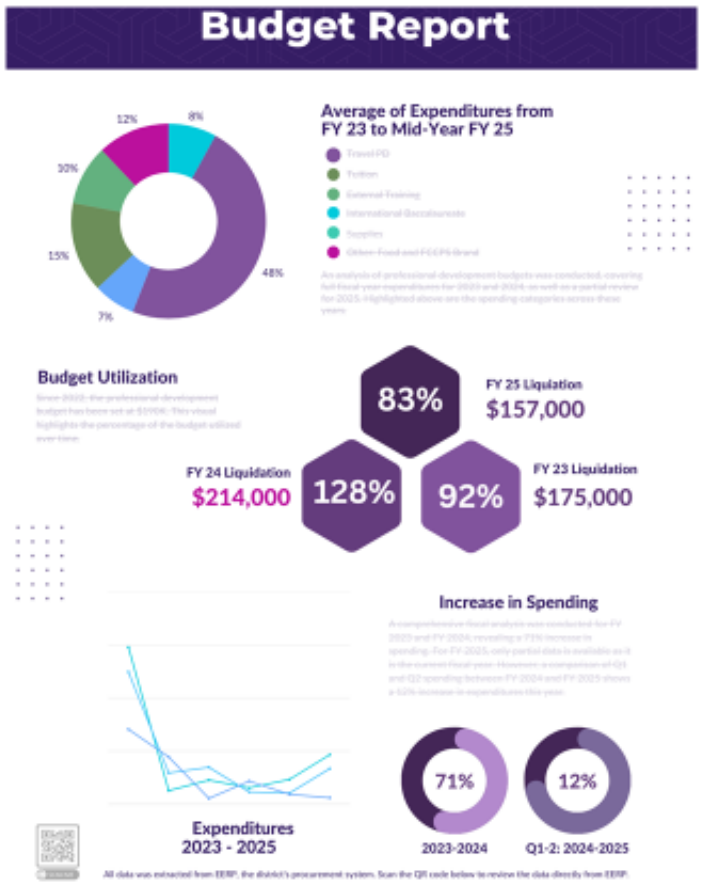

- Improved time efficiency for data analysis.
- Streamlined and enhanced query generation.
- Automated theme coding from stakeholder meeting notes.
- Expanded technical capabilities for advanced analysis.

Next Steps

Build on the cohort's insights to train colleagues and implement district-wide professional development on ethical AI usage.

Ultimate Goal

Equip all FCCPS faculty and staff with the skills and ethical understanding to effectively integrate AI technologies and drive educational innovation.

THANK YOU

Do you have any question?

Work: 703-248-5603
Co-Program Coordinator
MonaLisa L. Curry, M.S. ITD
currym@fccps.org

State of GenAI in Prince William County Public Schools

Tim Cruz
Supervisor of Instructional Technology
CruzTW@pwcs.edu

January 31, 2025

PWCS
PRINCE WILLIAM COUNTY PUBLIC SCHOOLS
LAUNCHING THRIVING FUTURES

GenAI Implementation Timeline

- **Fall 2023**: GenAI Committee convened
- **January 2024**: Creation of internal GenAI resource center
- **March 2024**: Rollout of Microsoft Copilot (web) for all staff
- **March – May 2024**: GenAI webinar series for all staff
- **August 2024 – Present**: Review GenAI features available in core instructional applications; Copilot 365 in use by large test group
- **October 2024 – Present**: Develop student-facing guidance for classroom use of GenAI tools
- **Next Steps:** Building Snowflake data lake and Qlik AI analytics; AI likely key component in four-year (2030) division strategy

Spotlight: Using GenAI for Specialized Instruction

10 Ways GenAI Can Be Used in Special Education Instructional Planning and Delivery:

1. **Develop Individualized Lesson Plans**: Tailor lesson plans to individual IEP goals.
    - "Create a list of sentences using only words from the Dolch primer and pre-primer sight word lists."
2. **Differentiated Instructional Practices**: Adjust text levels and create activities based on IEP goals.
    - "Adjust the reading level of this text to a 3rd-grade level: {{text}}."
3. **Data Analysis**: Summarize non-identifiable student data for behavior strategies.
    - "A student elopes from the classroom 14x a day, provide positive behavior strategies and a replacement strategy for a student who elopes from a classroom."

Spotlight: Using GenAI for Specialized Instruction

4. **Create Rubrics and Assessments**: Generate rubrics and assessments aligned with student profiles.
   - "Generate a rubric for a 4th-grade writing prompt on the hardships of Jamestown."
5. **Behavioral Support**: Develop social narratives, visual schedules, and positive behavior supports.
   - "Create a role-playing scenario to teach a student how to request help opening an item in the cafeteria at lunch."
6. **Generating Ideas for IEP Goals**: Assist in creating IEP goals based on student needs.
   - "Using the following format, "given {{blank}}, the student will {{blank}}, on {{blank}} criteria," develop an annual IEP goal, with 3 short term objectives, for a student who needs support counting to 30 and can currently count to 10."

Spotlight: Using GenAI for Specialized Instruction

7. **Accessibility**: Create materials compatible with screen readers and text-to-speech tools.
   - "Create an image description for the attached image that complies with WCAG 2.0."
8. **Develop Extension Activities**: Create additional learning opportunities to support instruction.
   - "Develop an educational learning game that a group of four fourth-grade students can play to continue to learn the multiplication table."
9. **Virtual Assistant**: Gather information and resources on educational topics.
   - "Summarize the importance of the Battle of Stalingrad."
10. **Executive Function**: Break down large tasks into manageable steps.
    - "Create a task analysis of how to brush your teeth."

PWCS

PRINCE WILLIAM COUNTY PUBLIC SCHOOLS

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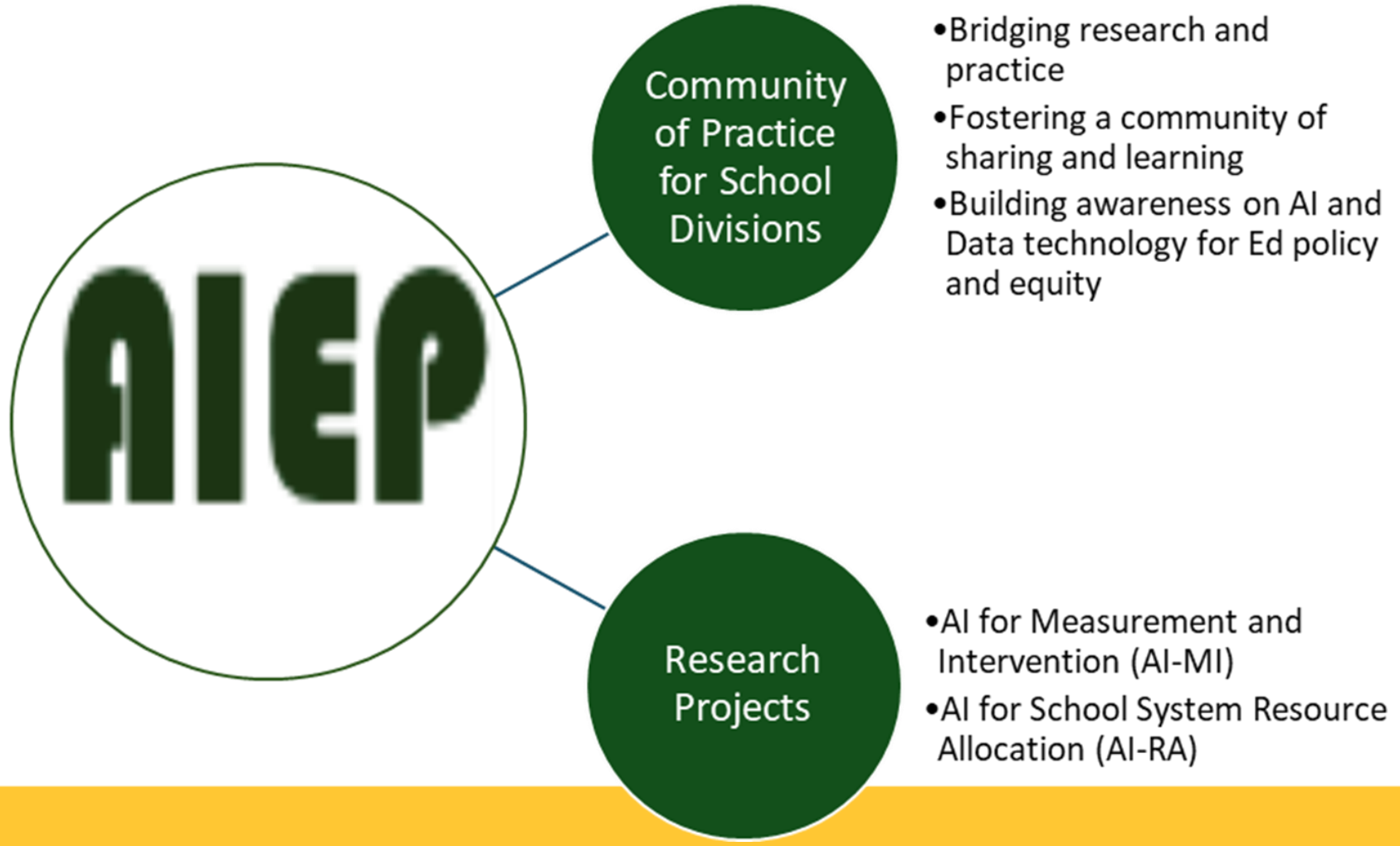
AI for Education Policy (AIEP) is an AI and Data-Driven Research Collaborative



We gather district leaders to identify problems of practice that AI-enabled tools can support

ARISE (AI for Responsive, Inclusive School Enhancement):

- Created a process map to visually represent the school improvement plan process with school-based users
- Tested AI-enabled tools to support SIP process

Final Reflections

1. What is one learning that you will take back to your team?

2. What more would be helpful to you as you continue to explore AI?

Stay Engaged & Learn More About AI in Education

https://forms.gle/wTwM29BqCwEfM7HF8

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See you on March 27th

Secondary Literacy