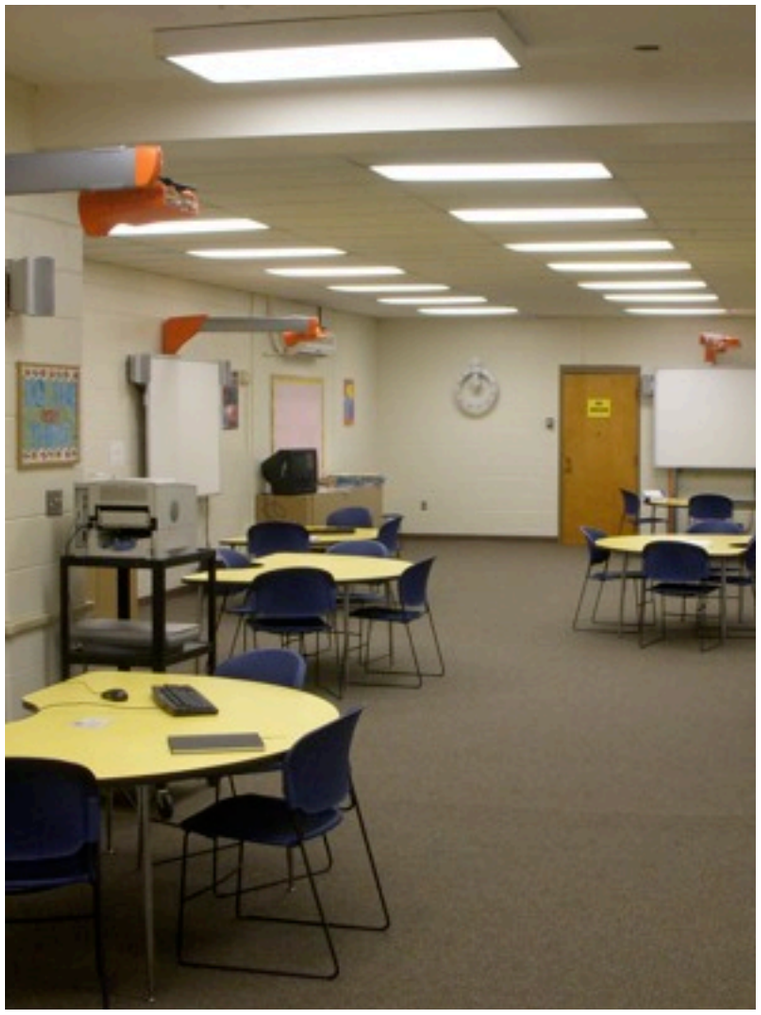
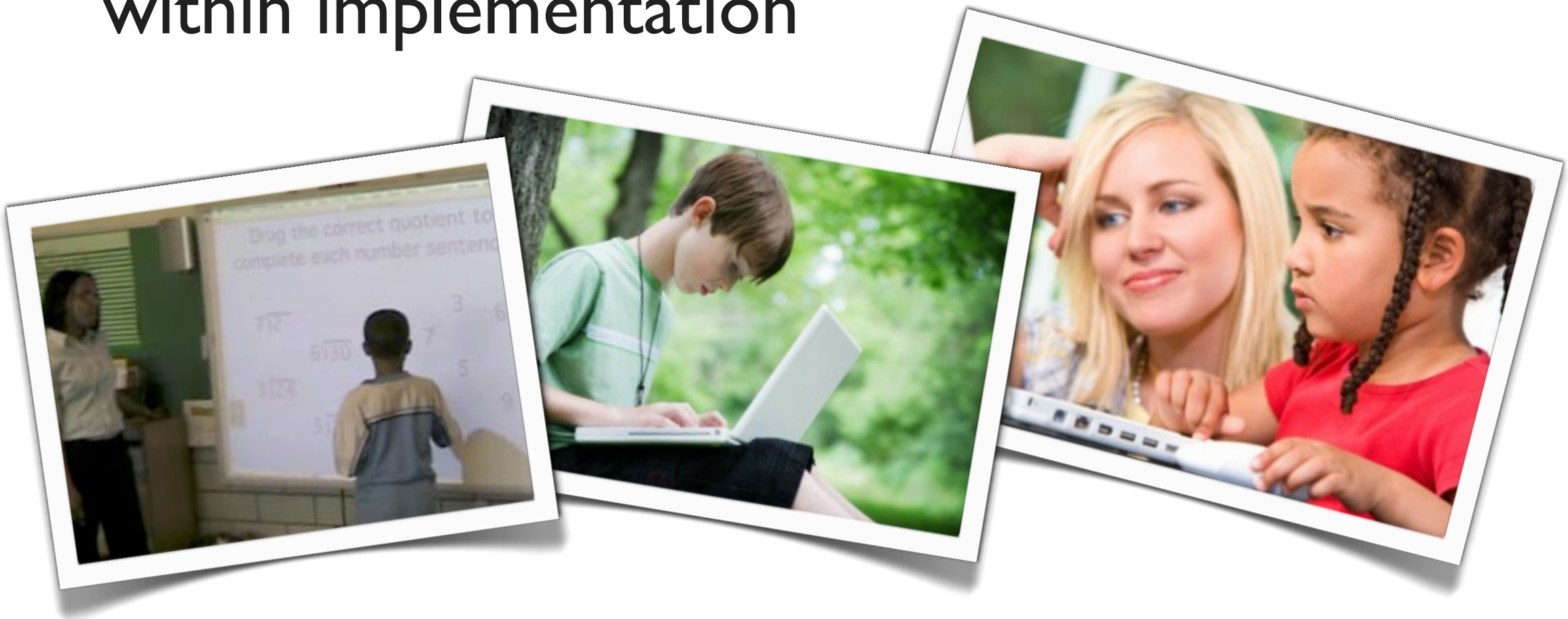


Partnerships to Support UDL Initiatives

Dr. James D. Basham
University of Cincinnati

Partnerships and networks to..

- Expand understanding and reach of UDL
- Develop UDL strategies & solutions across the curriculum (especially in STEM education)
- Gain better understanding of issues embedded within implementation



UC|FUSION

STEM Education Research & Outreach Center

The mission of the UCIFUSION Center is to impact policy and improve educational practice in P-20 science, technology, engineering, and mathematics (STEM) for all students, through transformative innovation, outreach, and research.

UC|FUSION Services in K-12 Education*

- State/District/Building Level Visioning & Consultation
- Strategic STEM Partnership Development
- STEM Education Professional Development
- STEM Curriculum Development & Instructional Design
- STEM Curriculum Research & Evaluation
- Collaboration in Grant Writing

*Some services are fee-based

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Quick Overview of Selected Projects

- UDL within Response to Intervention (Ecological RtI Framework)

- Digital Backpack Project

- SW Ohio STEM Education Hub of Ohio STEM Learning Network (OSLN)

- Taft STEM Elementary School (UDL based) & Hughes STEM High School (embeds UDL)

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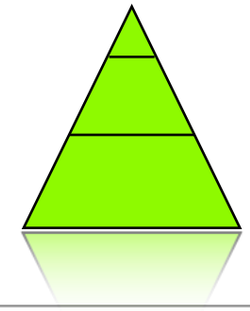
Ecological RtI Framework

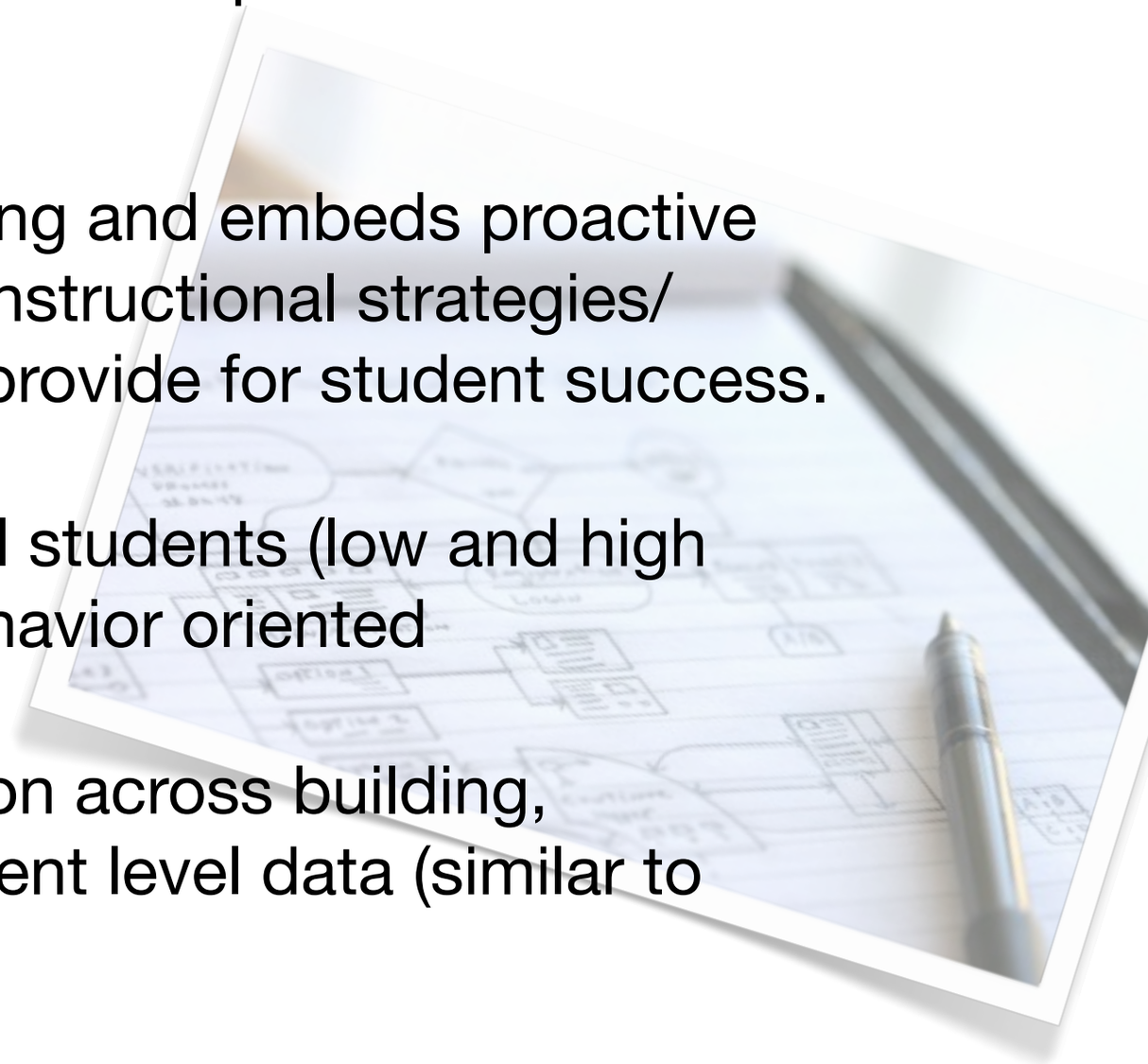


Multi-group partnership involving various departments in Cincinnati Public Schools (CPS). In early stages of development & implementation.

- Uses a data-based problem-solving and embeds proactive UDL based instructional design, instructional strategies/ interventions, and technology to provide for student success.

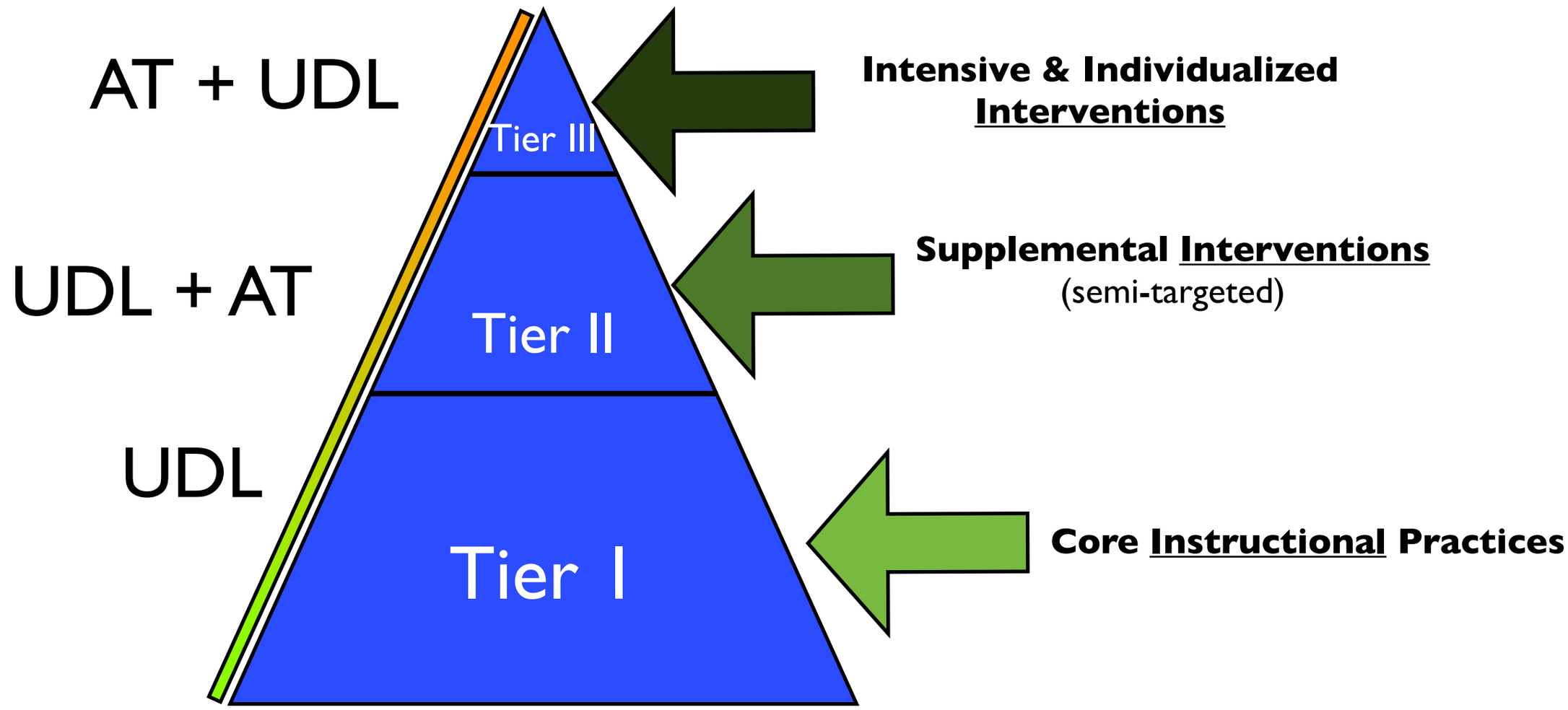
- Focused across curriculum, for all students (low and high performers) both learning and behavior oriented

- Data collection and implementation across building, classroom, small group, and student level data (similar to PBS).

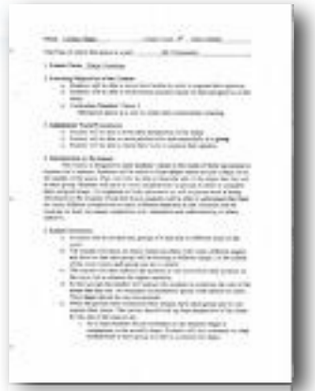


(Basham, Israel, Graden, Poth, & Winston, submitted)

Overview: Ecological RtI Framework



(Basham, Israel, Graden, Poth, & Winston, submitted)



Generic Instructional Design Solution "The Digital Backpack"

(Basham, Meyer, & Perry, 2010)

Digital Backpack
Core Components

1. **Foundational Technology-** hardware/software that provide the *general building block* for a lesson/project (e.g., laptop, software suites, Internet)

2. **Modular Technology-** hardware and software systems that are provided to achieve specific curricular, instructional, and/or student learning needs and outcomes (e.g., camera, camcorder, measuring devices, probes).

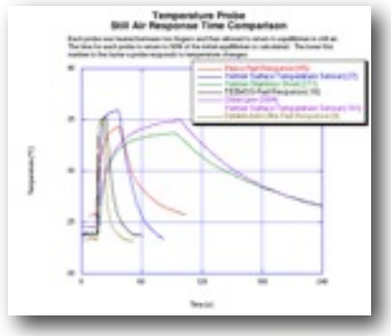
3. **Instructional Support Materials-** any material (digital or otherwise) that *provides structure and/or supports for the learning* experience (e.g., lesson/project materials, content podcasts, movies, readings)

(Basham, Meyer, & Perry, 2010)

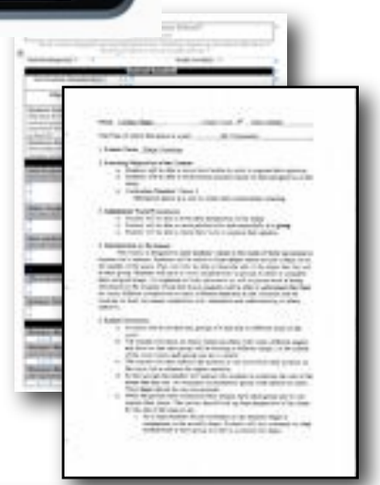
Digital Backpacks
Across the Curriculum

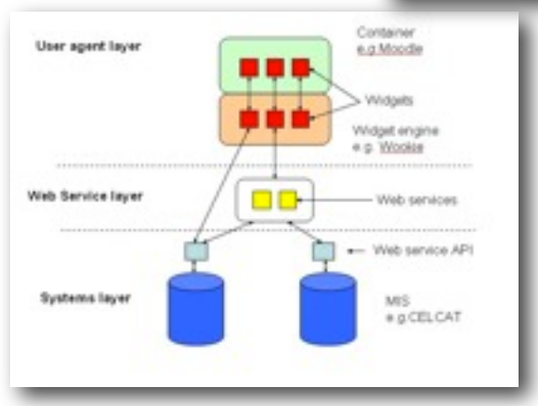
Foundational Technology

Modular Technology



Instructional Support Materials





(Basham, Meyer, & Perry, 2010)

Digital Backpack

Designed initially with National Underground Railroad Freedom Center (NURFC), members of UC|FUSION, and Apple.

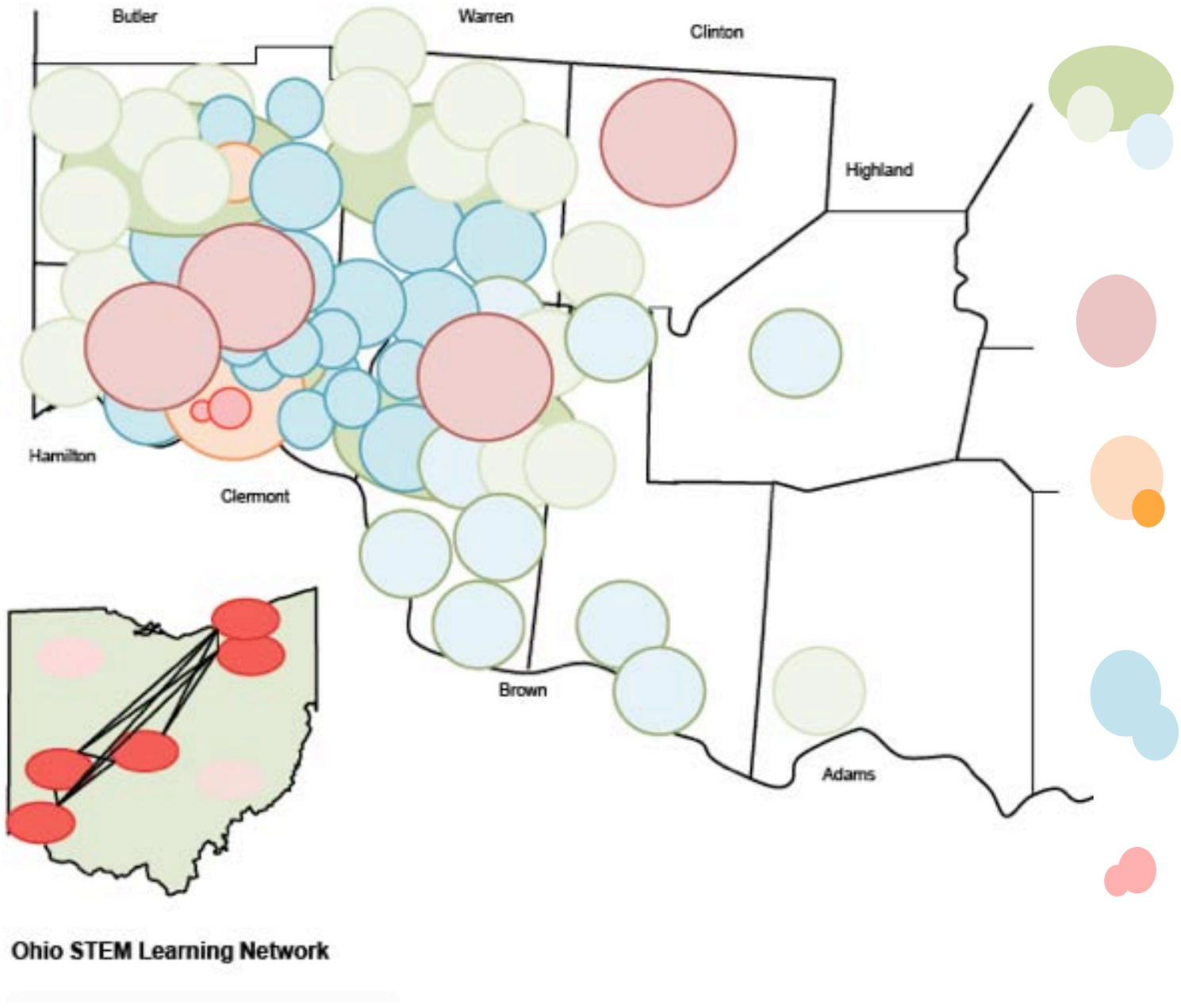
Known Regional Use:

- Used at both Taft and Hughes STEM School across the curriculum
- Part of Regional Innovation Lab
- UC|FUSION professional development, student field, and research experiences

For More Information See:

Basham, J.D., Meyer, H., & Ernest, P. (2010). The design and application of the digital backpack. *Journal of Research on Technology in Education, 42(4), 339-359.*

SW Ohio STEM Education Hub of OSLN



County Educational Service Center

Member Districts

Rural STEM Consortium Districts

Great Oaks Career Campuses

OSLN STEM School Districts

large and small

High AIMS Consortium

larger and smaller districts

University of Cincinnati

Cincinnati State – Tech Prep

- Partnership of over 30 education, corporate, and industry organizations
- Urban, Rural, and Suburban focused on "STEM Education for All"

One Hub Activity (September 2010): STEM Mini-Grants

- Regional Mini-Grants
- Focus: STEM Education for ALL
- Encouraging: UDL Design Challenges for STEM Education
- Outcomes data collection
- $2,000-$15,000

Taft STEM Elementary & Hughes STEM High School

Background

Started through a multi-group partnership with Cincinnati Public Schools (CPS) & UC|FUSION as lead partners.

Taft STEM Elementary (PK-8) (Opened School Year 2008-09). Was designed as a UDL based STEM School. Prior to our work was designated NCLB School of Redesign (school year 2007-08). **Length of redesign period**: 2-3 months.

Hughes STEM High School (Opened School Year 2009-10). Was a teacher-led redesign, considers UDL as a foundational component. **Length of redesign period**: 1 year.

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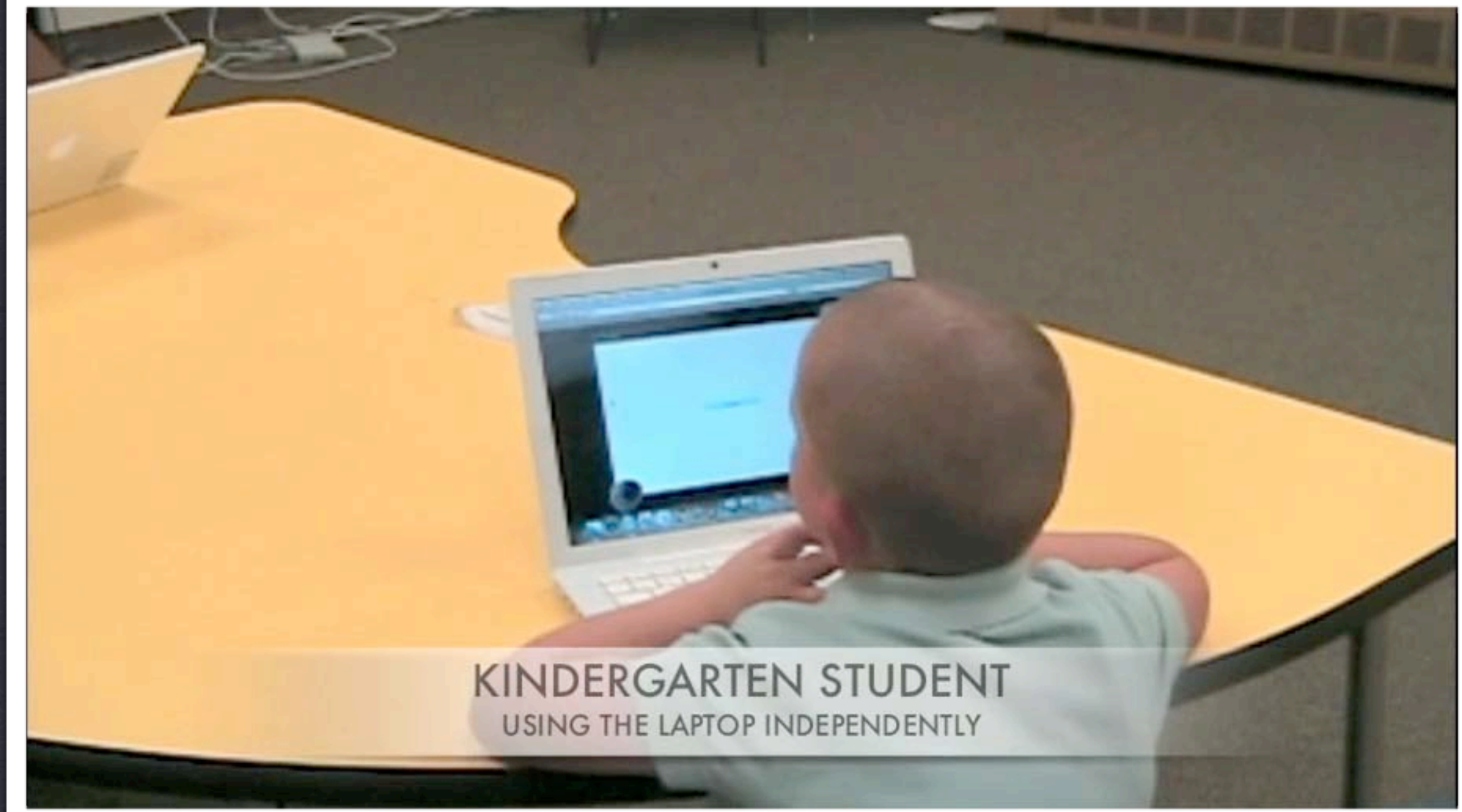
Focused on “STEM Education for All”

It’s about instructional design!

- Interdisciplinary/Transdiciplinary STEM Education
- Based on *Universal Design for Learning* (UDL)
- Uses *Project/Problem-Based Learning* (PBL)
- Embeds 21st Century Skills
- Requires infrastructure to support instruction
- With dedicated & well prepared teachers



PART OF MOVIE CREATED BY TAFT STEM TEACHERS DEPICTING UDL IN "STEM EDUCATION FOR ALL"

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