

Bath County Schools placed an intentional focus on planning for the effective use of ARP ESSER funds, and providing resources and materials necessary to move students to their learning trajectory, prior to the COVID-19 pandemic, served as the overarching goal. Keeping student well-being and achievement as the foundation and core of the plan was a quintessential aspect of every conversation, consultation, and planning session. As a result, the plan includes prevention and mitigation strategies consistent with CDC guidelines, evidence-based interventions to address the impact of lost instructional time as well as the social, emotional, and mental health needs of all students, and other resources to benefit students.

Prevention and Mitigation Strategies Consistent with CDC Guidance

Facilities Upgrades

As a result of our aging facilities, improved air quality was an essential prevention and mitigation strategy. Recommended by the CDC, this funding priority will assist in keeping our students safer as they return to school for the 2021-2022 school year.

\$5,500,000 has been appropriated as a part of the proposed Bath County High School HVAC/New Windows/Roofing project to refresh, modernize, and sustain the high school to improve the fresh air circulation within the building, increase student comfort, and positively impact student learning environment.

Research suggests the quality and condition of school facilities has a major influence on teacher and student performance and outcomes. The quality and condition of schools influences the physical, intellectual, and emotional health of students and teachers and can directly correlate with outcomes (The Importance of School Facilities).

Schools with classrooms having fewer external distractions i.e. noise, lighting, and glare positively correlate with positive gains in student active engagement and research supports a direct positive correlation between increased student active engagement and academic performance gains (The Importance of School Facilities).

Temperature affects active and productive engagement, the research is clear, for all ages. If active engagement is decreased because of lack of environmental comfort then academic performance decreases (The Importance of School Facilities).

According to the Center for Disease Control (CDC), “Adequate supply of outdoor air, typically delivered through the HVAC system, is necessary in any office environment to dilute pollutants that are released by equipment, building materials, furnishings, products, and people” (Indoor Environmental Quality, 2021).

The designated section of the high school is in need of these renovations to positively increase fresh air flow, increase teacher and student comfort, and modernize the high school

facility. Research suggests that these facilities improvements will positively affect student active engagement and academic performance as cited previously.

The Importance of School Facilities in Improving Student Outcomes. (Date accessed: July 16, 2021).

<https://sites.psu.edu/ceepa/2015/06/07/the-importance-of-school-facilities-in-improving-student-outcomes/>

Indoor Environmental Quality. (Date accessed: July 16, 2021).

<https://www.cdc.gov/niosh/topics/indoorenv/hvac.html>

Implementation of Evidence-Based Interventions to Address the Academic Impact of Lost Instructional Time

Simple Solutions Materials

With the learning loss incurred by the COVID-19 pandemic, it is imperative that students receive both intervention and acceleration as early as possible so as to narrow the learning gap. Since the amount of time needed for remediation increases as students get older, emphasizing recovery at a younger age yields higher long-term benefits. In addition, using a spiraled approach in reviewing material over time “leads to better memory of the information than conducting in a single study session” (Willingham, 2002). This is known as the spacing effect, and was discovered by Hermann Ebbinghaus after conducting the first scientific study of memory in 1885. After a study of learning syllables over time, he discovered that if he distributed his material over time he could cut study time in half and demonstrate learning with the same result (Ebbinghaus, 1964). In short, spacing study time results in better retention of the material.

The Bath County School district has allocated ARP ESSER funds to be used for the purchase of Simple Solutions math, English Language Arts, science, and social studies materials for all students, kindergarten through grade five for use during the school year. Further, there have been funds allocated for Simple Solutions summer bridging materials for math and English Language Arts for all elementary students so as to bridge the learning gap that widens in the summertime. The premise of Simple Solutions is that it spaces the content review so that retention of the material is maximized. Students will have the opportunity to practice the content, in small sessions, which will enhance learning. During the summer bridging program, additional funds have been appropriated for staff to be available to students and their families as they have questions when working through the program, and an incentive program that rewards students for their effort in completing the material.

Willingham, D. (2002). Allocating student study time: "Massed" vs. "Distributed" practice. *American Educator*. Retrieved from: <https://www.aft.org/periodical/american-educator/summer-2002/ask-cognitive-scientist>

Ebbinghaus, H. (1964). *Memory: A contribution to experimental psychology*. New York: Dover. (Originally published, 1885)

My Math by McGraw Hill

McGraw-Hill My Math was developed using the Understanding by Design (UbD) instructional approach. A widely used concept, Understanding by Design is an "approach to learning that identifies the desired outcome first and then tailors learning strategies to meet the identified objective" (McTighe & Seif, 2003). This allows students to see the larger picture and then have individual skills presented in a way that meets their individual needs.

Another crucial element to the *My Math* program is the use of manipulatives. The manipulatives in the program are designed to be used throughout the learning process to help students make meaning of more abstract concepts. Students have the opportunity to use manipulatives in both the student edition, and online with virtual manipulatives. "If manipulative use becomes an integral part of the academic structure for all students in mathematics classrooms, it may keep more students in higher-level math classes through college and beyond" (Kelly, 2006).

The purchase and usage of the *My Math* program will allow for continuity in instructional planning from kindergarten through grade five. As well, students will be able to use this program virtually should a short- or long-term school closure occur. The basis of the program, UbD, allows for a better understanding of the learning goals first, assessments second, and targeted, intentional learning activities third.

Also embedded in the program is manipulative use. Students will have the opportunity to learn abstract concepts in a less abstract way. Manipulatives are a crucial part of the learning process in the *My Math* program from kindergarten through grade five, and even integrate the use of foldables to enhance student learning.

Kelly, C. (2006). Using manipulatives in mathematical problem solving: A performance-based analysis. *The Mathematics Enthusiast*, (3). Retrieved from: <https://scholarworks.umt.edu/tme/vol3/iss2/6>

National Council of Teachers of Mathematics. (2000). Principles and standards for school mathematics. Reston, VA: National Council of Teachers of Mathematics.

McTighe, J., & Seif, E. (2003). A summary of underlying theory and research base for understanding by design. *Unpublished manuscript*.

After an unprecedented year of pandemic-caused alternative learning routes, the need for a comprehensive, cohesive, and research-based math program was evident. Math was frequently targeted in comments as a difficult area during virtual learning and continued to be a struggle as students transitioned back to in-person learning. The purchase of the Savvas Learning enVision math program will provide continuity with our secondary students in grades 6-12. The foundational concept on which the program was developed, visual thinking, is supported by years of research. Additional features, such as the student-centered pick-a-project activities, add to the personalization opportunities when scaffolding learning.

The enVision base math model uses a 3-act format that allows students the opportunity to model conceptual thinking using real-world situations: (1) the Hook requires students to identify critical variables after being presented with a real-life scenario, (2) the Model requires students to develop and test their models from those variables, and (3) The Resolution requires students to interpret, analyze, and validate the results of their models. The result of using the 3-Act model is a process by which students actively use visual thinking and real-world problem solving on a daily basis.

Savvas Learning's enVision Math program is based on a deep conceptual math understanding using visual models. Otis (2016) found that visual thinking involves the development of a new image that connects others, or the manipulation of an image that needs to change. Visual thinking helps the brain to connect images and enhance learning.

Everyone uses visual pathways when we work on mathematics and we all need to develop the visual areas of our brains. The problem of mathematics in schools is it has been presented, for decades, as a subject of numbers and symbols, ignoring the potential of visual mathematics for transforming students' mathematical experiences and developing important brain pathways. (Boaler et al., 2016)

Even Yancey, Thompson, and Yancey (1989) found that "training children in the process of using diagrams to solve problems results in more improved problem-solving performance than training students in any other strategy." The enVision math program combines real-life, problem-based learning with visual learning. Math concepts are scaffolded in a way that students gain a deeper understanding and make more connections to prior learning with visual models (Murphy). Visual learning has been long-studied and research supports utilizing this concept to enhance student understanding of material.

Boaler, J., Chen, L., Williams, C., and Cordero, M., 2016. *Seeing as understanding: The importance of visual mathematics for our brain and learning*. Journal of Applied and Computational Mathematics, 5(5), 1-17.

Murphy, S., 2006. *Visual learning in elementary mathematics: How does visual learning help students perform better in mathematics?* Glenview, IL: Pearson Education, Inc.

Murphy, S. *Powering Up Your Visual Learning Practice: Strategies to Help Students Succeed in Math*.

Otis, L., 2016. A new look at visual thinking: Creative ideas emerge when visual thinking meets verbal communication. *Psychology Today*. Retrieved from:

<https://www.psychologytoday.com/us/blog/rethinking-thought/201602/new-look-visual-thinking>

Yancey, A., Thompson, C., and Yancey, J. (1989). Children must learn to draw diagrams. *Arithmetic Teacher*, 36 (7), 15–23.

Full-Day State Funded Preschool For All Eligible Students

Bath County Schools will use ARP ESSER funds to offer full-day preschool to state-funded eligible three and four-year-old children for at least the next three school years to accelerate school readiness in Bath County. To accomplish this goal, we have added a third classroom in order to offer full day state funded preschool in our district. After careful discussion and analysis of local data and research, our team determined full-day preschool is a necessary intervention.

During the school closures of the past year and a half, most three and four-year-olds in Bath County lacked access to developmentally appropriate preschool services. As a result, according to local data, we are progressing toward the goal of school readiness slower than in previous years. In addition, the Brookings Institution and Duke University recently brought together many prominent and interdisciplinary scientists from institutions including Vanderbilt University, the University of Virginia, and the University of North Carolina at Chapel Hill to create a Pre-Kindergarten Task Force. Local data and the joint task force research reinforced the importance of preschool due to the following findings and assisted us in deciding to fund full-day preschool:

- Studies generally find those economically disadvantaged children and dual language learners benefit more from pre-K than their peers.
- The most successful pre-K programs have well-implemented, evidence-based curricula, orderly but active classrooms, and coaching for teachers.
- Evidence shows that children who attend public full-day pre-K programs improve literacy, numeracy, social-emotional skills, and self-regulation.

Phillips, D.A., Lipsey, M.W., Dodge, K.A., Haskins, R., Bassok, D., Burchinal, M.R., Duncan, G.J., Dynarski, M., Magnuson, K.A. & Weiland, C. (2017). The current state of scientific knowledge on pre-kindergarten effects. Washington, DC: Brookings Institution. Retrieved from

<https://www.brookings.edu/research/puzzling-it-out-the-current-state-of-scientific-knowledge-on-pre-kindergarten-effects/>

Other ARP ESSER Expenditures

Updated Outdoor Classroom Equipment

Funds have been appropriated to purchase new playground equipment at Owingsville and Crossroads Elementary Schools to promote and ensure inclusivity and equitable access to playground equipment that will meet the physical, emotional, and intellectual needs of our students.

“Through play, all children discover their world and how to be successful in it. The more they play, the more they develop skills necessary to engage, change and impact the world around them” (Kanics, July 16, 2021). (Source: <https://www.playlsi.com/en/playground-planning-tools/education/playground-equipment-benefits/>)

According to Miracle Recreation (miracle-recreation.com/blog/playgrounds-provide-myrriad-developmental-benefits-for-children/) the benefits of play enhance physical, mental, emotional, and social development. The physical benefits include:

- 1) Improved motor skills
- 2) Improved overall health
- 3) Increased muscular strength and stamina, and
- 4) Improved sleep quality

The mental benefits include:

- 1) Positive impact on academic performance
- 2) Brain development
- 3) Increased attention span
- 4) Increased creativity and imagination
- 5) Leadership development skills, and
- 6) Communication skills development.

The emotional benefits include:

- 1) Stimulation of all 5 senses
- 2) Development of self-esteem
- 3) Experiencing a range of emotions
- 4) Assist traumatized children cope with emotions, and
- 5) Development of independence

The social benefits include:

- 1) Learning to interact with others
- 2) Allows for individualism
- 3) Provides opportunities for inclusion
- 4) Increases openness with parents, caregivers, and peers and
- 5) Improves listening skills and team-building skills

Other Resources in the ARP ESSER Spending Plan

- *CommonLit.org* for middle school English Language Arts department (grades 6-8) benchmark assessments
- *Power Reading Online* (Marie Carbo) for middle school English Language Arts department (grades 6-8) intensive reading intervention
- *Virtual Academy Teachers* (primary, intermediate, middle school, high school)
- *Continuous Improvement Director* (oversees district continuous improvement and the virtual academy)
- *NWEA, CERT, ACT* (sophomores) - assessments to gauge student learning and progress
- *Interventionists* (elementary)
- *EL support teacher* for identified students
- *Edgenuity* Learning Management System (LMS) for the virtual academy
- *School supplies for all students* - reduces barriers to learning and provides equitable access to the learning materials needed
- *Stipends for all staff* (see Meaningful Consultation section) - currently being considered by the Board of Education
- *Wifi Access Point Upgrades*
- *Chromebook and Distance Learning Technology Refresh*
- *STEM kits*

Addressing the Academic, Social, Emotional, and Mental Health Needs of All Students Through Planned Interventions

MTSS District Lead Teacher and MTSS District Coach Position

In the aftermath of the pandemic, Bath County Schools realize that the importance of teamwork and collaboration will be more critical than ever as we begin to tackle unfinished learning, address inequity, and help students engage with grade-level content.

After analyzing local data and available educational research, Bath County decided to use ARP ESSER funds to create the positions of MTSS Lead Teacher and MTSS social emotion coach to serve as “change coaches” for the district and individual schools. The two positions will assist MTSS school-level teams, and district-level MTSS teams to lead each school's MTSS effective implementation. The focus of work of the additional staff members will be assisting schools with the MTSS planning process and decision-making related to systems, coaching and training staff, and assisting schools in analyzing both large-group student data and individual data.

It is Bath County School's philosophy that planning and well-developed MTSS implementation teams will drive the MTSS process most effectively for our students. The “Change coaches” will foster the development of leadership skills of school staff members such as teachers, support services personnel, and administrators. According to Neufeld and Roper 2003 what distinguishes change coaches from content coaches, is that change coaches focus on

leadership for whole-school organizational improvement. The role of change coach will not exclude direct work with teachers or direct classroom instruction, but rather understands direct classroom instruction as one piece of a larger systemic unit requiring change. Thus, the two ARP ESSER funded “change coaches” will work with district and school leadership to build capacity of the multi-tiered system of interventions to support our new ever evolving environment toward enhanced student outcomes.

Neufeld, B. & Roper, D. (2003a). Coaching: A strategy for developing instructional capacity – Promises and practicalities. Washington, DC: Aspen Institute Program on Education and Providence, RI: Annenberg Institute for School Reform

Neufeld, B. & Roper, D. (2003b). Expanding the Work: Year II of Collaborative Coaching and Learning in the Effective Practice Schools. Cambridge, MA: Education Matters.

GMAP Spending Plan and Assurances

Category Code Description	Object Code Description	Organization	Narrative Description
ESSER III	Construction Services	Bath County	SCHOOL FACILITY REPAIRS TO REDUCE TRANSMISSION AND IMPROVE INDOOR AIR QUALITY
ESSER III	Indirect Costs	Bath County	INDIRECT COSTS FROM FEDERAL GRANT AT FEDERAL COST %
ESSER III	Technology related Hardware	Bath County	PURCHASE EDUCATIONAL TECHNOLOGY TO IMPROVE STUDENT OUTCOMES
ESSER III	Other Equipment	Bath County	PURCHASING EQUIPMENT FOR OUTDOOR CLASSROOMS FOR SPECIAL NEEDS POPULATIONS

Category Code Description	Object Code Description	Organization	Narrative Description
ESSER III	Vehicles	Bath County	HVAC TECHNICIAN VEHICLE
ESSER III - 20% Learning Loss	Certified Services (Contract)	Bath County	ADDITIONAL CERTIFIED STAFF, INCLUDING TEACHERS USED FOR INTERVENTION TO ADDRESS LEARNING LOSS
ESSER III - 20% Learning Loss	Other Certified (Not part of the Contract)	Bath County	ADDITIONAL PAY FOR CERTIFIED STAFF SUPPLEMENTA L SCHOOL PROGRAMS
ESSER III - 20% Learning Loss	Certified Substitute	Bath County	HIRE STAFF TO ADDRESS SPECIAL NEEDS POPULATIONS
ESSER III - 20% Learning Loss	Classified Salaries	Bath County	ADDITIONAL CLASSIFIED STAFF NEEDED TO CONTINUE SERVICES
ESSER III - 20% Learning Loss	General Supplies	Bath County	BUYING INSTRUCTION AL MATERIALS FOR STUDENTS AND STAFF FOR LEARNING
ESSER III - 20% Learning Loss	Supplemental Books Study Guides Curriculum	Bath County	TESTING AND SUPPLEMENTA L MATERIALS FOR

			ADDRESSING LEARNING GAPS
ESSER III - 20% Learning Loss	Text books other Instructional Materials Data required for State Reporting	Bath County	INSTRUCTION AL MATERIALS FOR ALL 4 SCHOOLS TO ADDRESS LEARNING LOSS
ESSER III - 20% Learning Loss	Technology Software	Bath County	SOFTWARE PROGRAMS FOR INSTRUCTION AND ASSESSMENT

Meaningful Consultation

Just as the COVID-19 pandemic has affected our entire community, the Bath County school district reached out to involve all stakeholders in developing the ARP ESSER funding plan. After careful planning for prior ESSER funding, ARP ESSER monies allowed an opportunity to provide continuity to some of the resources and activities as well as add evidence-based practices and CDC-endorsed mitigation strategies. These components were derived from conversations with teachers, parents, administrators, and other stakeholders with an interest in addressing the loss caused by COVID-19. As a result of these on-going conversations, a team developed an initial plan for ARP ESSER funds and a survey was sent to all stakeholders (parents/guardians, students, school staff, and community members) to gather additional feedback for the components of the draft plan. At the close of the survey, every stakeholder group was represented. These results were compiled and shared with the district team and board of education members. In the survey, the components were broken down into the following categories: facilities, technology, security, and instruction. The survey indicated that 87.5% of stakeholders supported the facilities section, 87.5% supported the technology section, 84.4% supported the security section, and 85% supported the instruction section. Further, suggestions from the survey data were integrated into the plan, including the hiring of additional staff, RTI and intervention resources, HVAC for our buildings, and updated playground equipment.

In addition to on-going conversations/consultation with stakeholders and the survey, Mr. Evans, Bath County Schools Superintendent, met with representatives from the Kentucky Education Association (KEA) and the Bath County Education Association (BCEA), which are the largest professional associations representing the largest share of educators in the school district. The KEA and BCEA representatives requested stipends for all staff members for the anticipated extra time that will be spent in planning and working with students to address student needs as a result of the pandemic. A request for stipends was evident in the survey

data as well. After being presented with all of the requests and data, the board of education is currently considering how to revise the draft ARP ESSER plan to allow for staff stipends. This will be integrated into a subsequent iteration of the spending plan.

Of note, the consultation process and the survey reached those representing historically disadvantaged groups. As a result, specific appropriations were planned to address the needs of these students in assisting them to return to their pre-pandemic learning trajectory.

Finally, access to the ARP ESSER spending plan is clearly posted on the district website and will be updated, if changes are necessary, to reflect the current needs of the students and the district. Bath County Schools values each and every stakeholder and will continue to work in tandem for the betterment of our students as they embark on a year of both recovery and acceleration.