

Sustaining A Research Intensive PDS

Sustaining Inquiry Across PDS Faculty, Preservice Teachers, University Faculty

Year 2 – Research Intensive PDS Project

Benedum Collaborative at West Virginia University

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PDSs were awarded grants to support innovative work that 1) included professional development, 2) involved a partnership with [West Virginia University](#) and, in some cases, other PDSs, 3) contributed to the school's efforts to meet standards for their schools put in place by the state and standards related to being a PDS which were established by [NCATE](#), and 4) included a teacher-researcher component. Throughout the winter and spring, the Research Intensive PDSs study and pilot their work, and then present the results of their work at the [Benedum Collaborative's Inquiry Celebration](#) held in April at Lakeview Resort in Morgantown.

YEAR 1 2010 - 7 Research Intensive PDSs:

- **Units of Writing: Developing a Yearlong K-8 Curriculum**
- **Research-Based Practices of Fluency Instruction**
- **Using iPads to Develop Vocabulary Development in All Subject Areas**
- **Designing and Teaching PBL Units (4 county schools)**

YEAR 2 - 2011 - 7 Research Intensive PDSs:

Tier 1: Research Intensive PDS grant proposals will target new pilot projects.

Tier 2: Research Intensive PDS grant proposals will target implementation projects that are built on last year's pilot work.

Applicants provided a progress report and an action plan that includes an itemized budget (which included in-kind resources). A team, comprised of faculty/students from WVU and from PDSs, reviewed proposals and provided feedback on proposed projects. In order to support PDSs seeking these grant funds, two coaching workshops were offered. The first one was an overview of inquiry. The second one was a help session where applicants brought their proposal drafts for feedback.

Year 2 projects include the following:

Tier 1 NEW PROJECTS

Tier 1: Clay-Battelle Middle/High School in Monongalia County **Developing 21st Century Teachers and Learners**

How can the implementation of 21st Century techniques affect student engagement and student achievement? Clay-Battelle has decided to focus on 21st Century learners. Our goal is to effectively engage and impact the digital learner through the development of inquiry action research by developing 21st Century teachers, pre-service teachers, and student learners. We plan to implement the research practice by implementing videoconferencing programs, mobile labs, and guest speakers. Our purpose is to enrich inquiry based teaching practices in an effort to positively impact student learning which will lead to increased student achievement and engagement. WVU liaison, Maggie Allison, will be working with the team as they engage in action research on this important topic.

Tier 1: North Elementary in Monongalia County **Guiding Teachers through Guided Reading**

Guided Reading is an important part of our daily routine. Three years ago North began teacher led PLC that focused on Guided Reading and the relevance of the practice in the classroom. Last year over 50% of our teachers volunteered to participate in the PLC and we focused on set up, management, finding a common vocabulary and creating materials for the classroom. Now that we are comfortable with the Guided Reading management, we are focusing on specific teaching strategies that can be used with small groups. Teachers are being taught strategies and data collecting methods to improve instruction. Video, blogging and peer observation are only a few of the ways we are reflecting on our teaching practice to improve instruction for all students. Michelle Stellato and Aimee Morewood from WVU are supporting this action research study where the PLC engages in collegial conversations about their reflections on teaching experiences with guided reading.

Tier 1: North Marion High School in Marion County **PBL and Collaborative Disciplines in the High School**

At North Marion, we are in the process of challenging traditional roles of students and teachers in the high school environment in order to create a learning community that cultivates life-long learners---students who not only graduate, but become global citizens who are critical thinkers, collaborators, problem solvers, communicators, and innovators. Recognizing project based learning instruction as an effective way to incorporate Global 21 skills into the classroom, we restructured our freshmen classes for the 2011-2012 school year to incorporate collaborative PBL instruction. As we look to the future of our program, we are collecting data on the achievements, successes, and mishaps of the program, as well as the attitudes of our students and teachers. We are also finding unique and exciting ways to expand what is happening in the Freshmen Academy to the rest of the student body during the 2012-2013 school year and beyond. Sharon Hayes, Pam Whitehouse, and Matt Anderson from WVU will be supporting North Marion teachers, preservice teachers and students in this study.

Tier 1: South Harrison High School in Harrison County **Integration of Web Based Differentiated Instruction**

South Harrison High has implemented Empower3000 into the RTI curriculum. The faculty at SHHS will examine how the utilization of the Empower3000 impacts student achievement and motivation, as well as its impact on teacher practice during the "Train Your Brain" academic intervention. The web based program has been used to assess students' individual Lexile scores, assign level appropriate standards-aligned nonfiction reading/writing (via e-mail,) monitor comprehension using formative assessment, and measure Lexile growth. The program provides diagnostic data that facilitates individualized intervention and remediation based on a given student's needs. Using the data generated by the Empower3000 program and other formative assessment tools, the faculty will examine the impact on reading comprehension, fluency, vocabulary, and writing skills for students of varying proficiency levels. They will also be working with WVU liaison, Amy Kuhn, to expand their data sets to include data beyond that generated by the Achieve 3000 program.

TIER 2 – BUILDING ON YEAR 1 PROJECTS

Tier 2: Marion County Consortium: East Dale Elementary, East Park Elementary, Rivesville Elementary/Middle, and White Hall Elementary

Research Intensive PDS: Marion County Consortium: 21st Century Learning Using PBL

This consortium of 4 PDSs will continue their study on how a Project-Based Learning (PBL) teaching strategy helps students to achieve 21st Century and/or content-specific Content Standard Objectives that are of high priority. They also hope to learn what management challenges for PBL exist for future implementation by teachers. This complex collaboration includes preservice teachers in their final semester in the Five-Year Teacher Education Program, teachers in each of the PDSs, and WVU professor Dr. Neal Shambaugh. Pre-service teachers will work in teams to develop PBL units and design professional development events and accompanying materials on PBL in a graduate course they are enrolled in during the Spring semester. They receive feedback from teachers and then, in collaboration with PDS teachers, implement the units and the professional development in their PDSs. They will also make revisions to the PBL unit based on data collected from students and mentor teacher observations and personal reflections. The school-based research teams will study data related to the PBL project that includes teaching observations of PBL units, the PBL units produced, notes from sessions where teachers and interns debriefed on their experiences, and assessment data of student performance.

White Hall Writers: We examined how engaging K-4th grade students to use the 21st Century writing and technology standards enhanced student motivation and understanding of the writing process. Each student at White Hall Elementary School created and published a book based on personal interest.

East Park Busy Bee Writers: using the five step writing process, students in grades 3-6 became published authors and illustrators. Once the books are published this spring, students will show off their books at an “Author’s Night” and will reflect on their experience through class discussion and comment cards.

Rivesville: *Show Me Some Love* - various ways to encourage 3rd grade students to express their feelings through poetry. *Community Tycoon* - the steps to forming a “Class Compact” and how 3rd grade students created a model community.

East Dale: *iManage* – 3rd grade students in “family” groups manage a monthly allowance using a debit card and local advertisements. *Bullying, Are You a Statistic ?* 6th grade students survey peers and high school students, graph the results, and compare the results to national statistics.

Tier 2: Mason-Dixon Elementary in Monongalia County

Teachers’ Perceptions of Effective, Job-embedded Professional Development and Comprehension Instruction

Based on the findings from last year’s action research project, we decided to continue researching our understanding of teachers’ perceptions of job-embedded professional development. Our research has switched gears by moving from fluency instruction to comprehension instruction. This shift was made because of our conversations around fluency instruction and how this pillar of reading supports students’ comprehension. We are now ready to deepen our knowledge of comprehension instruction because of the conversations we had about fluency last year; this was a natural progression in our learning. The following research questions will guide our work:

- What are teachers’ perceptions of job-embedded professional development. Have they changed from last year’s experience?
- What are teachers’ perceptions of effective comprehension instruction?
- How do teachers perceive changes in their comprehension instruction over time?

Mason-Dixon's team will focus their efforts on deepening their understanding of job-embedded professional development and developing instructional strategies to build students' literacy skills related to reading comprehension. Mason-Dixon teachers, preservice teachers, and WVU liaison, Dr. Aimee Morewood, plan to engage in learning about current research on reading comprehension and job-embedded professional development. This study was a natural progression from the pilot work the team did as a Tier 1 Research Intensive PDS on site-based professional development strategies around reading fluency. Like last year, the new PLC will be using a lesson study approach as well as teacher and student interviews. The teachers and preservice teachers will videotape their comprehension lessons, meet in collaborative groups to discuss and analyze the video-based data as well as current research from others in the field. Teachers and the WVU liaison will participate in a book study using Nooks and blogged reflections. Literacy faculty from WVU will be meeting periodically with the PLC to share their expertise on reading comprehension.

Tier 2: West Milford Elementary in Harrison County

Using iPads for Instruction

Based on our research, we believe that as student engagement increases student performance will also increase. Our school did not make AYP last year, so we want to further integrate technology as an instructional tool to improve student achievement. Due to students having more access to gaming devices, they are more responsive to digital learning and accustomed to immediate feedback, which they don't always get in a traditional classroom. Using a set of 15 iPads, teachers will integrate the iPads into their curriculum. They will document the activity, objectives and outcomes. We will gather this information and report on our findings regarding student performance and engagement.

PBL Research Findings From Year 1 (5 Research Questions)

Research Question	Finding
<p>RQ1: What are the learning outcome priorities and units that interns-PDS teachers choose for PBL teaching?</p> <p>From: unit design rubric feedback</p>	<p>WVDE Rubric categories:</p> <p><i>Authenticity:</i> connect to other content areas and concepts and ideas. Ss aware of solving problems with limited resources.</p> <p><i>Academic rigor:</i> CSO + 21st century CSOs include on unit plans. Project assessment allowed for multiple outcomes and content areas to be addressed. Pre-assessment is necessary to find out what Ss know. PBL units may create unique WV Power Standards.</p> <p><i>Applied learning:</i> units created awareness of topics. Gave Ss practical problems to solve. Teamwork needs to be added as its own learning outcome. Incidental learning outcomes emerged. Units need specific rules, policies, procedures.</p> <p><i>Active exploration:</i> multiple CSOs. Teacher role is very active to listen, provide feedback, question, and prompt. Provided Ss with more exploration opportunities.</p> <p><i>Adult relationships:</i> Introduce Ss to adult situations and institutions. Examples from community helpful and provide assistance in the classroom. Teachers work together in grade level teams. Opportunities for co-teaching with SPED and Regular ED teacher.</p> <p><i>Assessment:</i> Multiple assessment options need multiple rubrics (or other a/ment tools) may be necessary. Rubric development may need several trials to optimize. Peer review found useful in upper elementary grades. Multiple assessment options motivate older students.</p>
<p>RQ2: How do students perform in PBL-based units?</p> <p>From: unit teaching feedback, summarized for each PDS</p>	<p>East Park/White Hall (joint teaching) 4th <i>How can we construct a 3-dimensional snowman within the constraints of a given budget and area?</i></p> <ul style="list-style-type: none"> • Students thought about the problem all day, everyday • Learned to develop a budget by using fractions and decimals, work in teams • Learned how to use calculators, cameras, PPT • Students could comment on their work. • Most common misconceptions from measurement and ratio. • Ss believed they learned the most from doing/presenting the PPT and using digital cameras. <p>East Dale 3rd <i>Why should I know how to use and budget money?</i></p> <ul style="list-style-type: none"> • Ss learned for the first time about budgets. • Final day of explanations gave Ss understanding. • Researching different grocery stores, different restaurants, and different types of dining. • Ss acted as consumers and researched and compared and contrasted prices. <p>East Dale 6th <i>How do I make appropriate proportions when preparing meals?</i></p> <ul style="list-style-type: none"> • Final project assessment allowed for a multitude of disciplines to be addressed: math vocabulary, numbers, leadership in groups. • Ss learned to specify portions to address obesity problems. • Students evaluated each other. <p>Rivesville 7th (regular ed and special ed teachers) <i>How can parts of a story apply to our lives?</i></p>

	<ul style="list-style-type: none"> • Ss used a real novel to understand literary elements. • Ss used their prior knowledge to make sense of the story. • Ss learned that novels have a purpose. • Ss learned to work in small groups and relate their life experiences in art and drawing.
<p>RQ3: What “worked” and “did not work” in PBL-based units?</p> <p>From: unit teaching feedback, summarized across 4 PDS</p>	<p>What worked:</p> <p>Entry event: Ss hooked from entry event. Review and questioning of students.</p> <p>Research: project ready to go on day 1, interns prepared. Math in action and action research. Tie-in of student wants and needs.</p> <p>Role play: All Ss played role. Ss acted as consumers. Engaged activity continued throughout lessons.</p> <p>Student work: Ss were accountable for them-selves and their group. Ss applied the math and this allowed T to see the need for concrete instruction. Activity kept Ss on task.</p> <p>What didn't:</p> <p>Some materials need work. Entry event needed extra practice time Add day for presentation practice Ran out of time for culminating lesson Title change</p>
<p>RQ4: What are the management challenges of planning and teaching PBL-based units?</p> <p>From: unit teaching feedback, summarized across 4 PDS</p>	<ul style="list-style-type: none"> • Good examples and clear instructions needed • Details need to be adjusted • Ss need time to practice developing and delivering presentations – need a lesson just for practice • Look for concept understanding in student and group work • Shift teacher research to student research • Math may need more teaching time • Opportunity to review what Ss need to know before continuing with unit • Like all teaching innovations, adjusting for time required • More research duties should be given to upper grade level students • Ask Ss if unit title needs to be changed. Invest them in the unit design • Prerequisite learning needs to be in place or pre-assessed
<p>RQ5: What was teachers' previous PBL knowledge, what did they learn from the presentation, and would they use PBL in their teaching?</p> <p>From: PD event feedback</p>	<p><i>Prior knowledge or use?</i></p> <ul style="list-style-type: none"> • No knowledge = 10 • Some knowledge/use = 9 • Have used before = 7 <p><i>What did you learn?</i></p> <ul style="list-style-type: none"> • Process awareness = 15 • Learned new activities = 7 • Teach critical thinking, other outcomes = 4 <p><i>Future use of PBL?</i></p> <ul style="list-style-type: none"> • Will use = 18 • Will not use = 0 • Other (asked questions) 8