

Assessing the Impact of Vertical Alignment Professional Learning Communities in Improving Teacher Instructional Approaches

**Maria Navarro, Tim Foutz, and
Emily Cabrera**

The University of Georgia

INTRODUCTION

- The Jackson County School District (JCSD) partnered with the University of Georgia in Project CATAPULT TEAMS (Connecting and Aligning Teaching, Assessment, and Project-Based Understanding for Learners in the Twenty-First Century: Teachers Empowering All Math and Science students) to increase student achievement in JCSD.



INTRODUCTION

- Data from all K-12 schools in the county showed math and science courses in grades 7-10 posed the greatest challenge for their student, thus becoming the focus of CATAPULT TEAMS.



CATAPULT TEAMS

Jackson County Schools Leadership:

- JCS Curriculum director
- JCS Professional learning coordinator
- High School (HS) math learning facilitator
- High School (HS) science learning facilitator
- Teachers leaders and MS and HS math and science department heads
- School administrators

UGA (IHE) Faculty

Life Science

Life Science (7th)
Biology (9th)

Physical Science

Physical Science (8th)
Physical Science (10th)
Physics

Numbers and
Operations

Data Analysis
and Probability

Algebra

Geometry

Vertical Alignment Professional Learning Communities

Focus: Vertical Alignment of Curriculum in Grades 3-12, professional development
Facilitators: Math and Science Learning Facilitators

East Jackson
Middle School
PLC Math
PLC Science

Kings Bridge
Middle School
PLC Math
PLC Science

West Jackson
Middle School
PLC Math
PLC Science

East Jackson
Comprehensive
High School
PLC Math
PLC Science

Jackson County
Comprehensive
High School
PLC Math
PLC Science

School-Based Professional Learning Communities

Focus: Review student work, analyze student data, SMART goals, and increase teacher content knowledge (PD)
Facilitators: Teacher leaders, API's and/or Principals

Project-Based Learning Teachers Teams

Focus: Research study on the effect of project-based learning
Teacher volunteers (control and treatment)
Facilitators: District level support, UGA partners

The University of Georgia (IHE Partners)

Focus: Support Research study,
Professional development,
Summer workshop

PROFESSIONAL LEARNING COMMUNITIES

- A key component of the CATAPULT TEAMS project were the math and science School-Based Professional Learning Communities (PLCs) and the Vertical Alignment PLCs.



PROFESSIONAL LEARNING COMMUNITIES

- Activities included review of student work, analysis of student data, teacher collaboration in lesson plan preparation, developing a continuum of skill building from one grade level to the next and aligning curriculum, teacher content knowledge, and improvement of teaching process through discussion and analysis of research-based teaching methods.



PROFESSIONAL LEARNING COMMUNITIES

- Each PLC met regularly throughout the school year.
- The model provided a framework for all 77 middle and high school math and science teachers in the seven schools of the system to participate in the program.



Table 1

Survey of teachers participating in the CATAPULT TEAMS regarding the effectiveness of the PLCs (school-based and vertical alignment). Summary of quantitative responses. N = 68. Response rate 88%.

	Percentage responses ¹				Ranking ^{2,3}
	SA	A	D	SD	
1. I believe I have benefited from the work of my professional learning community.	17.9	79.1	3	0	5, a
2. I believe my school has benefited from the work of the professional learning communities.	16.4	79.1	4.5	0	7, a
3. I believe the work of my professional learning community has increased my content knowledge.	10.4	65.7	20.9	3	17, c
4. I believe the work of our school professional learning communities will increase student achievement.	23.9	68.7	7.5	0	10, b
5. I believe the work of my professional learning community has caused me to reflect on my teaching practices.	23.9	73.1	3	0	4, a
6. I believe the work of my professional learning community has encouraged me to change my teaching practices.	11.9	73.1	14.9	0	13, b
7. I believe the work of my professional learning community has helped me change my teaching practices.	7.5	76.1	16.4	0	14, c
8. I believe my professional learning community is focused on the goal of improving student achievement.	29.9	68.7	1.5	0	1, a
9. I believe the work of the vertical team has increased my content knowledge.	20.9	58.2	20.9	0	16, c
10. I believe the work of the vertical team will increase student achievement.	26.9	68.7	4.5	0	6, a
11. I believe the work of the vertical team has helped me understand better the math or science taught at other grade levels.	38.8	59.7	1.5	0	3, a
12. I believe the work of the vertical team has caused me to reflect on my teaching practices.	20.9	74.6	4.5	0	9, a
13. I believe the work of the vertical team has encouraged me to change my teaching practices.	13.4	73.1	13.4	0	12, b
14. I believe the work of the vertical team has helped me change my teaching practices.	13.6	68.2	18.2	0	15, c
15. The principal and assistant principal(s) at my school support the work of the Math-Science Partnership.	30.3	68.2	0	1.5	2, a
16. I believe the Math-Science Partnership has been an important factor in the improvement of Jackson County Schools.	24.2	68.2	4.5	3	11, b
17. I believe Jackson County Schools will continue to improve because of the Math-Science Partnership.	18.2	77.3	1.5	3	7, a

Note 1: Percentage responses. SA=Strongly Agree; A=Agree; D=Disagree; SD=Strongly Disagree

Note 2: Ranking according to percentage of responses with "Agree" or "Strongly Agree."

Note 3: a=more than 95% agree or strongly agree; b=85-95% agree or strongly agree; c=75-85% agree or strongly agree. There are no questions for which less than 75% respondents agree or strongly disagree.

Table 2

Survey of teachers participating in the CATAPULT TEAMS regarding the effectiveness of the PLCs (school-based and vertical alignment). Summary of analysis of the open-ended questions and answers.

18. Please explain how your school has benefited from your school-based professional learning communities.

a) Teachers considered they benefited very much from collaborative teaching practices. This included working together to plan and analyze student work, creating similar expectations, and developing new approaches to teaching; b) Teachers also considered they benefited from the vertical alignment teams, because it helped them better assess student levels and curriculum needs, and they said they understood better what the students should know, and what they will need to know in subsequent grades; and c) Also cited as benefits were increased student achievement with improved test scores and performance levels as well as increased student motivation.

19. Please explain how you have benefited from your professional learning community.

a) Improved teaching methods or practices. Teachers found themselves trying new things, being more deliberate in their lesson plans, and being more focused; b) Teacher collaboration which included spending time with teachers from other schools to share knowledge and experiences; c) Content: Because teachers “see the bigger picture” and understand what is being taught in other grades, their teaching is more specific so as to help students make connections.

20. Please give an example of one of the most successful efforts of your school-based professional learning.

a) Vertical alignment. Many teachers considered it very important to meet with other teachers in other grades to develop a common language (and practice) that would be used from elementary to high school; b) Success with project based learning units or assessments; and c) Improved student performance or test scores.

21. What activities would you recommend for your school-based professional learning communities in the 2010-2011 school year?

a) Continuing to meet in order to collaborate on topics such as project based learning units (creating more units), to share and exchange ideas especially regarding what is working in the classroom, and to spend time focusing on professional growth and advancing student achievement; b) need to improve or have more vertical alignment, including more lessons and activities.

22. Please explain how you have benefitted from vertical teaming in math or science.

a) Teachers benefited from seeing what the teachers in earlier grades were doing and knowing/understanding what the students’ prior knowledge was. With this knowledge, the teachers could focus on new material and also understand how students were being taught in earlier grade levels; b) Knowing the curriculum for subsequent grade levels. This helped the teachers see what the students would be learning and where they might struggle in the future.

23. What activities would you recommend for vertical teaming in the 2010-2011 school year?

a) Need for continuing the meetings and collaboration amongst teachers of the various grade levels; b) Improve vertical teams through increased sharing of ideas and teaching methods, and creating projects that were vertically aligned as well as developing a vertically aligned curriculum.

CONCLUSIONS AND RECOMMENDATIONS

- More than three quarters of the teachers considered that the PLCS (school-based and vertical alignment) were being very effective and beneficial for them and for the school, and they believed that the efforts of the PLCs would help accomplish the goal of improving student achievement. Many teacher comments illustrate this general feeling of accomplishment and success of the PLCs .



CONCLUSIONS AND RECOMMENDATIONS

- The evaluators recommended that the PLCs continue in Jackson County School District. They are very well received by teachers, who see personal (teacher), school, and student benefits to the collaborations, and consider their time with the PLCs a good investment (and continue to ask for more time devoted to PLCs). The slow and confusing initial stages of building and establishing the PLCs during the prior projects are now surpassed, the PLCs have momentum, the teachers are realizing outputs from the collaborations, and are starting to see impacts in their teaching ability, and in the learning and achievement of their students.



CONCLUSIONS AND RECOMMENDATIONS

- School-based and vertical alignment PLCs are working well. It is recommended to strengthen the links between all PLCs and the teacher teams for the research study on the effect of project-based teaching and learning, and reinforce math-science integration. It is recommended that math and science PLCs and their members engage in developing and implementing joint project-based learning units, work on math-science curriculum integration, process reflection, learning of assessment tools, horizontal and vertical alignment, and project evaluation.



CONCLUSIONS AND RECOMMENDATIONS

- Of importance to all PLC activities, from discipline and school based meetings to horizontal and vertical alignment efforts, is to keep teachers engaged by keeping the end goals in mind, and assuring short-term outputs and accomplishments.

