Presentation to the Assembly Committee on Higher Education

By

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Project TEAMS

- **Project TEAMS was a 4-year study (2009-2013) that focused on ways to decrease the achievement gap in middle school math and science classrooms.**

- **71 6th-8th grade math and science teachers from 2 schools and 2400 students participated in the grant.**

Funding

- The funding of $1,022,253 over four years was initially from CPEC (California Postsecondary Education Commission) and then transferred to CDE (California Department of Education) when CPEC was eliminated from the state budget.

Project TEAMS Goals

The TEAMS Project had 5 major goals:

1. To increase the level of student achievement in math and science through the Lesson Study Process.

2. To provide a sustained professional development for 6th-8th grade teachers to deepen both their content and pedagogy in math and science.

Project TEAMS Goals

3. To address how English Learners, Black, Hispanic or Latino, White, Socially Economically Disadvantaged (SED) Students, and Students with Disabilities (SWD) can achieve success in math and science.

4. To provide mentoring, coaching and leadership skills to participants.

5. To develop teaching/learning collaborative environments within and between departments.

The Lesson Study Process

- The Lesson Study Process assisted teachers in better understanding their students' individual academic needs which resulted in improved teaching methods.
- Teams of 3-5 teachers planned lessons collaboratively
- All day substitutes were provided for the teams to observe each other teaching their lessons.
- One teacher taught the lesson while other teachers video-recorded both the teacher teaching and student responses to the lesson.
- Other team members adjusted the lesson the next period they taught based on what they observed.

The Lesson Study Process

- **The teams reflected on the collaborative lesson and made curricular adjustments for the next time they taught the lesson.**
- **The teams analyzed patterns of teacher questions and student responses.**
- **The 3rd and 4th year of the project math and science teachers planned interdisciplinary lessons and collaboratively taught the lessons.**
- **This process assisted the teachers in being well prepared for implementing the Common Core Standards.**

Professional Development

The professional development was both mandatory and non-mandatory. Mandatory sessions included:

- **Integration of math and science lessons and differentiated instructional strategies**

- **Information on Common Core Standards and Next Generation Science Standards**

Professional Development

- **Integrating technology (IPads) into the classroom**
- **Multiple measures of assessment and multiple intelligences**
- **Site-based and grade specific activities**
- **Group presentations of their lessons and videos**

Non-Mandatory Professional Development

- **Field trips, conferences and mini-grants were available to all participants.**

- **Teachers who possessed a Multiple Subjects Teaching Credential were able to take 48 quarter units in math or science through UC Riverside Extension in order to obtain an Introductory Authorization Credential in Math or General Science.**

- **Participants completed 542 units in math and/or science courses during the four years of the project.**

Professional Development

- **Leadership with participants evolved in the areas of technology, content knowledge, presentation skills and organizational skills.**

- **Each participant developed skills that effectively contributed to the team.**

Quantitative Findings

The quantitative research included a longitudinal growth model of 19 teachers who participated in all 4 years of the project and their students. The CST scores were analyzed each year of the project.

- **There were 2 different time ordered waves of students.**
- **4 year - Same students were tracked from 5th-8th grade.**
- **3 year - Different students were tracked from 6th-8th grade.**
- **The results found steady increases in CST (California Standards Test) math scores across all sub-groups.**

Quantitative Findings

- **Overall 6th-8th AMO (Annual Measurable Objectives) improved over the 4 years of the project with all sub-groups.**
- **Black students improved 22%- (24.9%-46.9%)**
- **Hispanic or Latino students improved 14.8%- (35.5%-50.3%)**
- **White students improved 5.2%- (51.9%-57.1)**
- **English learners improved 10.9%- (36.8%-47.7%)**
- **Socially economically disadvantaged students improved 17%- (33.8%-50.8%)**
- **Students with disabilities improved 17.4%- (26.6%-44%)**

Quantitative Findings

- At the beginning of the grant there was considerable individual variability in the CST scores for all sub-groups.

- At the conclusion of the grant the variability was not as evident.

- The closing of the achievement gap occurred at an average rate of 1.50 CST points per year across all students.

Qualitative Findings

All participants were interviewed annually and asked the same questions. Their answers were compiled and analyzed. Findings indicated:

- **Participants gained a deeper understanding of the content they were teaching and provided more varied classroom activities that appropriately matched the different ways their students learned.**

Qualitative Findings

- **There was a more in-depth focus on their students cultural and academic needs.**
- **Participants were well prepared for the Common Core Standards as they had already taught lessons that integrated math, science and literacy and utilized multiple methods of assessment.**

Qualitative Findings

- **Strategies for working with English learners and SWD (students with disabilities) were incorporated into participants' lessons.**

- **The Lesson Study Process provided teachers with improved pedagogy, increased collaboration within and between departments and greater respect and trust for one another.**

Lessons Learned

- **It takes time to build trust and respect with teachers. A minimum of 3-4 years is required in order for sustainable change to occur.**

- **Video recording was very powerful as teachers looked at both their own teaching performance and their students' reactions to their teaching.**

- **Small teams of 3-5 were more productive than teams that were comprised of whole departments.**

Quotes from Teachers

“ We shifted from isolation to working together to improve instruction. Seeing videos from other teachers was great because we had a visual point of reference on what and how we taught.”

“Debriefing and reflecting are very important. Every time we did the feedback together we made changes in our lessons and analyzed the different stages for presenting a lesson.”

Quotes from Teachers

“Having the goal of integrating math and science into our lessons made us become more creative. Our students were able to recall concepts better because they saw the connections between math and science.”

“I am looking at my lesson development and asking other teachers on my team to see how I can teach in different ways. We spend more time on engagement, rigor, collaboration and accountability.”

Quotes from Teachers

“Students believed they could accomplish their work and their confidence grew. I asked more of my students. Before it was acceptable to just give the right answer. Now I want them to show me their work and tell me how they arrived at their answer. I am moving more from direct instruction to independent work.”

Conclusions

- **The TEAMS Project laid a foundation for the UCR campus as students who participated in the project are now high school students in the Inland Empire. Their positive experiences with the project could affect their applications to UCR.**

- **For more information contact Sue Teele at steele@ucx.ucr.edu.**