Making Math Meaningful for Pre-Service Teachers Through Collaboration

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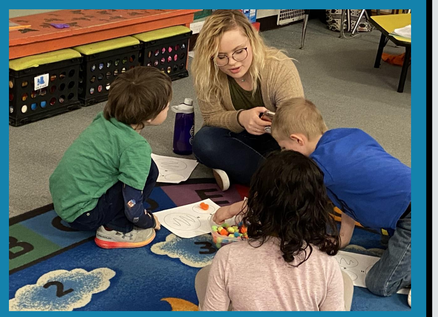

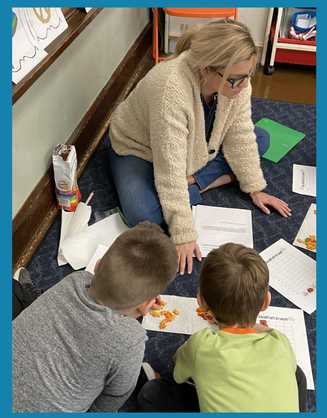

ABSTRACT

Meaningful learning experiences enrich a pre-service teacher's experience! How can pre-service teachers experience math in a "real elementary classroom?" There is little more impact, than students leaving their university Math Methods college classrooms – and venturing to an elementary school for class. This poster session will address the current research about the benefits of school-university partnerships, the challenges in implementation, and also the logistics to create a mutually beneficial math partnership at your university.

CHANGE OF PRACTICE

In most teacher preparation programs, pre-service teachers have some experiences in the field (mainly practicum, student teaching, and some observation experiences) but what if you convert additional courses and place them in the field – even for their coursework?

Students in EDU351 (Math Methods) attended the course in a local elementary school. The course was held in a 3-hour block once a week. Each week the students learned in a classroom at the elementary school fundamentals from the course, but also had the amazing opportunity to teach and work with elementary age students. The classroom teachers served as mentors to the pre-service teachers. Each pre-service teacher worked with the classroom teacher for the entire semester during course time – meeting the math objectives.

Logistical challenges surfaced with the model including transportation, time of elementary math instruction and number of students enrolled in the course.

CURRENT RESEARCH

In a time of infinite technology, there are endless possibilities to connect students to worthy math experiences. However, there is little more impact, than students leaving the comfort of their university Math Methods college classrooms – and venturing to an elementary school for class. This "real-life" experience is mutually beneficial to both the preservice educator and the local primary school (and teachers and students).

Colleges of education are finding ways to provide more pre-service teachers with opportunities that are "real-world" – despite institutional hurdles, costs, state certification requirements, technology, and additional logistical constraints. The importance of the opportunities outweighs the challenges.

Educational researchers recognize the need for better preparation for pre-service teachers to face the challenges of today's schools (Fullan, 2016; Goodlad, 1990). Authentic clinical experiences can bring depth to a student's understanding of mathematics – as they work with students who are struggling (or exceeding) in mathematics.

Darling-Hammond (2006), states that effective pre-service teacher programs:

> Include tight coherence and integration among courses and between course work and clinical work in schools, extensive and intensively supervised clinical work integrated with course work using pedagogies linking theory and practice, and closer, proactive relationships with schools that serve diverse learners effectively and develop and model good teaching.

RESULTS

The collaboration is mutually beneficial. Pre-service teachers benefit from working with children in mathematics, and discussing their experiences with peers during class. Pre-service teachers with "mathematics anxiety" have an opportunity to put their teaching to practice, and Bekdemir (2019) found that "teacher education programs should be designed and implemented so as to prevent student anxiety from becoming a barrier to mathematics achievement" (p. 326). Additionally, schools also benefit from the experience, allowing students to have small individualized math groups with pre-service teachers attentive to student needs.

REFERENCES

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