

Calculating the Costs of Providing Preschool Educators with the Professional Development Necessary to Implement High-Quality Mathematics Instruction

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Today's Presentation

- Introduction
- Discussion of Professional Development Cost Framework
- Methodology
- Questions/Committee discussion



Introduction

- Benefits of high-quality preschool education have long been established (Barnett, 1985)
- Several states (e.g. AR, FL) and the federal government are now investing more resources in Pre-K programs, particularly for low-income students
- Extensive research shows the benefits of providing students with a preschool curriculum that includes high-quality math instruction (e.g. Clements & Sarama, 2006; Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R., & Nores, M., 2005)



Introduction, continued

- Many research-proven programs for teaching math to preschoolers are available
- To properly implement such programs, educators need high-quality professional development, the cost of which is currently unknown
- Our task is to determine the cost of providing preschool educators with the professional development necessary to implement high-quality math instruction



Introduction, continued

- More specifically, we were asked to calculate the cost of providing such training per educator per year
- We suggest calculating the cost of three preschool math programs with solid research evidence of effectiveness
- We propose the use of a cost framework for professional development (Odden, Archibald, Fermanich & Gallagher, 2002)



A Cost Structure for Professional Development

Cost Element	Ingredient	How Cost is Calculated
<p>Teacher Time Used for Professional Development</p>	<p><i>Time within the regular contract:</i> -when students are not present before or after school or on scheduled in-service days, half days or early release days</p> <p>-planning time</p> <p><i>Time Outside the regular day/year:</i> -time after school, on weekends or for summer institutes</p> <p><i>Other Time During the regular day/year</i> -release time provided by subs</p>	<p>teachers' hourly salary times the number of student free hours used for pd</p> <p>the cost of the portion of the salary of the person used to cover the teachers' class during planning time used for pd</p> <p>- the stipends or additional pay based on the hourly rate that teachers receive to compensate them for their time</p> <p>- substitute wages</p>



A Cost Structure for Professional Development

Cost Element	Ingredient	How Cost is Calculated
Training and Coaching	<p><i>Training</i></p> <ul style="list-style-type: none"> -salaries for district trainers -outside consultants who provide training; may be part of CSRD <p><i>Coaching</i></p> <ul style="list-style-type: none"> -salaries for district coaches including on-site facilitators -outside consultants who provide coaching; may be part of CSRD 	<p>sum of trainer salaries consultant fees or comprehensive school design contract fees</p> <p>sum of coach and facilitator salaries consultant fees or comprehensive school design contract fees</p>
Administration of Professional Development	<p>Salaries for district or school level <i>administrators</i> of professional development programs</p>	<p>salary for administrators times the proportion of their time spent administering pd programs</p>



A Cost Structure for Professional Development

Cost Element	Ingredient	How Cost is Calculated
Materials, Equipment and Facilities Used for Professional Development	<i>Materials</i>	materials for pd, including the cost of classroom materials required for CSRDs
	<i>Equipment</i>	equipment needed for pd activities
	<i>Facilities</i>	rental or other costs for facilities used for professional development
Travel and Transportation for Professional Development	<i>Travel</i>	Costs of travel to off-site pd activities
	<i>Transportation</i>	Costs of transportation within the district for professional development
Tuition and Conference Fees	<i>Tuition</i>	Tuition payments or reimbursement for university-based pd
	<i>Conference Fees</i>	Fees for conferences related to pd



Methodology

- Using the average-size district with average-size schools, we will build a prototypical district
- We will use national average salaries and hourly wages for all positions used in the Pre-K programs
- Additional per-pupil or per-educator components are added to the cost of these Pre-K Models
- Sensitivity analysis



Discussion Questions

- Programs to analyze: SRA Building Blocks, Big Math for Little Kids, Pre-K Mathematics
- Alterations in Professional Development Framework for use with Pre-K math programs
- Committee question: How much does it cost to develop the necessary materials for the professional development associated with the programs?
- Others?



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Committee Questions

1. What activities are included in professional development (*e.g.*, workshops, web-based training)?
2. How much time is required to train the individuals who provide the professional development to early childhood educators and what are the costs associated with this training?
3. How much does it cost to offer live workshops of a certain duration per day offered to early childhood educators (*i.e.*, covering release time for teachers, cost of the workshop provider)?



Committee Questions, continued

4. How much does it cost to develop the necessary materials for the professional development associated with the program?
5. Based on the data gathered in questions 1 through 4, estimate how much it would cost to offer N days of live workshops per year per teacher?
6. Based on the data gathered in questions 1 through 4, estimate how much it would cost to offer N days of web-based training per year for N teachers?

