

Expansion and Quality in Early Childhood Education: Lessons from Mexico and Chile

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- Yoshikawa, H., McCartney, K, Myers, R., Bub, K., Lugo-Gil, J., Ramos, M., & Knaul, F. (2007). *Preschool education in Mexico: Expansion, Quality Improvement, and Curricular Reform*. Florence, Italy: UNICEF Innocenti Research Centre Working Paper. Available at: http://www.unicef-irc.org/publications/pdf/iwp_2007_03.pdf
- Yoshikawa, H., Barata, M.C., Rolla, A., Snow, C.E., & Arbour, M.C. (2008). *Un Buen Comienzo, an initiative to improve preschool education in Chile: Data from the initial year of implementation*. UNICEF Chile office, Santiago de Chile.

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Funders

- Mexico report:
 - Secretaría de Educacion Pública, Mexico
- *Un Buen Comienzo*:
 - Experimental impact evaluation (2008-2011):
Fundación Educación Oportunidad, Santiago de Chile
 - Pilot and process evaluation (2007-2008): Fundación Educación Oportunidad, UNICEF Chile office, the World Bank, ACEV Foundation, Center on the Developing Child at Harvard University, and Harvard Graduate School of Education

Introduction

- Early childhood intervention can be a wise investment in children's future success in school and as productive citizens in society (Barnett, 1995; Cunha & Heckman, 2006; Engle et al., 2007; National Forum on Early Childhood Program Evaluation, 2007; Ulkuer, 2006; Yoshikawa, 1994).
- However, only preschool programs with proven effectiveness factors have long-term effects on school success and social participation (National Forum on Early Childhood Program Evaluation, 2007):
 - Qualified and well-compensated personnel
 - Small group sizes and high adult-child ratios
 - Language-rich environment
 - Developmentally appropriate “curriculum”
 - Safe physical setting
 - Warm and responsive adult-child interactions

Expansion and Quality

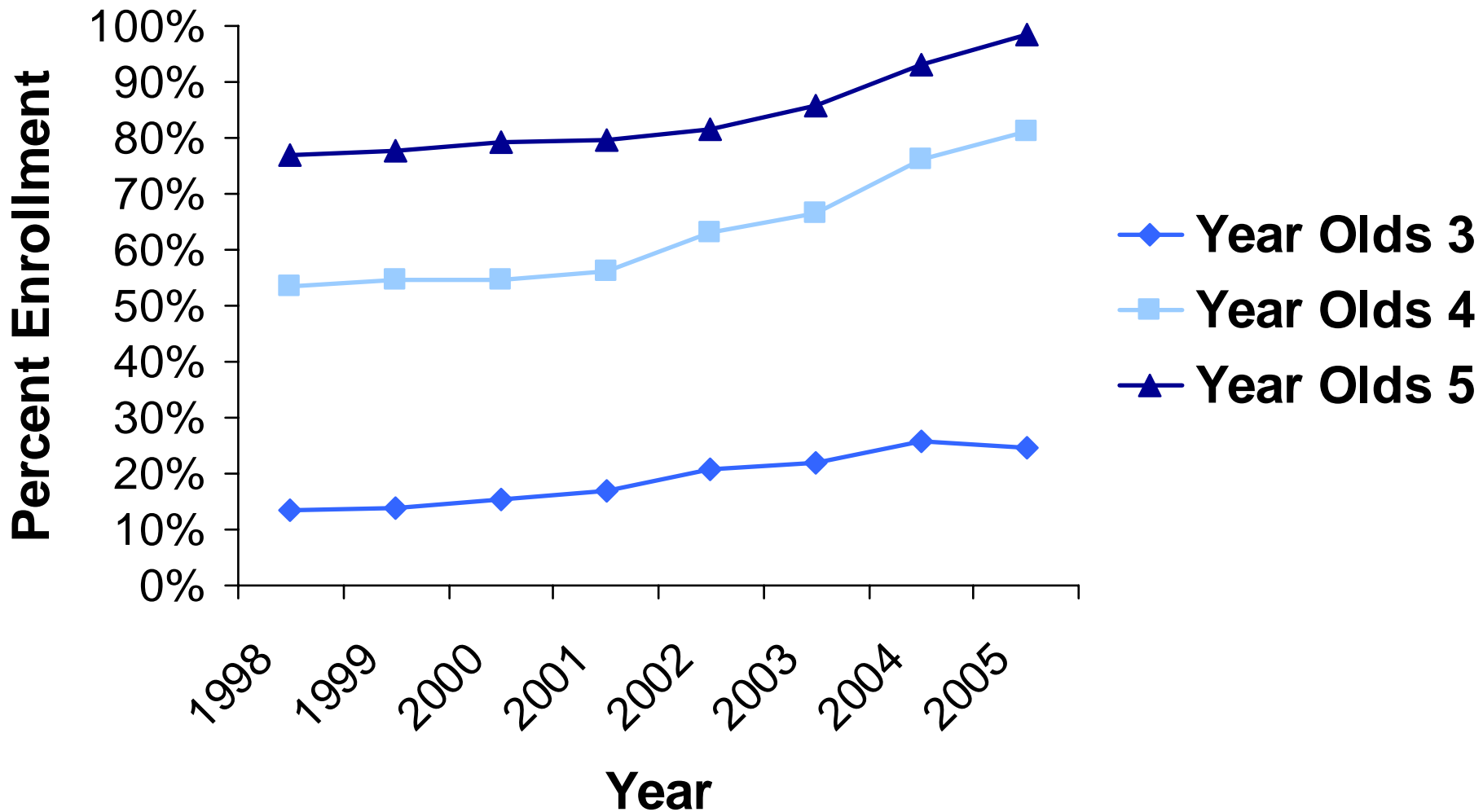
- ECCE expanding rapidly in many middle- and low-income countries (UNESCO, 2006; UNICEF Innocenti Research Centre, forthcoming).
- Attention to quality insufficient in this expansion (Myers, 2006; UNICEF IRC, forthcoming).
- Need to develop culturally and locally specific measurement and monitoring systems to improve and track ECCE quality (Myers, 2006).
- Need to rigorously evaluate model approaches to improving ECCE quality

Expansion and Quality: Evidence from Mexico

- One of the most rapid expansions of ECCE legislated by any country in the world.
- Mexican *obligatoriedad* law mandated in 2001 that parents send their children ages 3 to 5 to preschool (only country to mandate for 3 year olds).
- Set time frame for 100% coverage of 5 year olds (2004), 4 year olds (2005), and 3 year olds (2008).
- Stated that implementation must “guarantee the equity of education quality.”

Enrollment Rates of Mexican Children in Preschool Education, 1998 – 2005

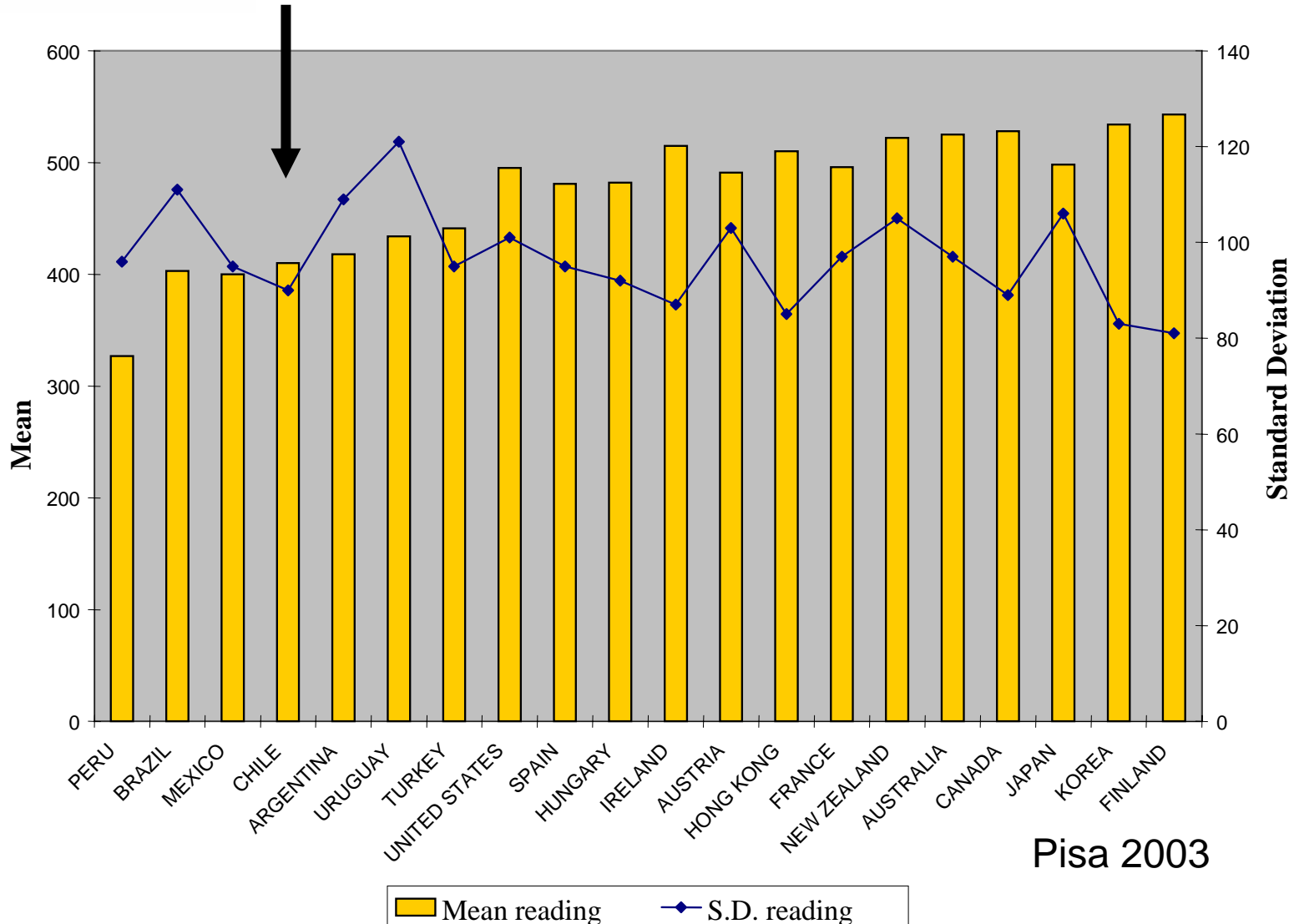
(Yoshikawa, McCartney, Bub, Myers, et al., 2007, UNICEF IRC Working Paper)



Changes in Structural Quality

- Proportion of preschools with child-adult ratios over 30 increased by 50% (from 12% to 18%) between 2001 and 2005 (Yoshikawa et al., 2007).
- Suggests that rapid expansion without concurrent investment in quality may not achieve intended effects.
- In Chile, President Michelle Bachelet has committed to rapid expansion of preschool education to address educational and economic inequality in Chile (Vegas & Petrow, 2007).
- Coverage expanded from 21% in 1990 to 42% in 2005 (Contreras, Herrera, & Leyton, 2007; Uyamahara, 2006).

Un Buen Comienzo rationale: Chilean reading levels low





Un Buen Comienzo: Rationale

Quality of ECCE a concern: Although teacher training conveys importance of access to literacy materials and language-rich interactions, emphasis in classrooms is on whole-group instruction, few print materials due to costs (Villalón, Suzuki, Herrera, & Mathiesen, 2002).

Social participation and socio-emotional development in general also not a focus of teacher training.

52% of parents in our pilot sample report having 10 or fewer books in the home (Yoshikawa, Barata, Rolla, Arbour, & Snow, 2008).



Un Buen Comienzo: Goals

- ❑ To **reduce levels of reading difficulty** that children from low-income families experience in Chile.
- ❑ **Reduce the vocabulary gap** between children in low-income families and their more advantaged counterparts.
- ❑ **Increase involvement** of parents, communities and *comunas* in preschools
- ❑ **Increase children's levels of social participation** in language and social activities
- ❑ **Improve attendance in preschool with preventive health measures**, particularly in the area of respiratory symptoms, through health screening and well-child visits.

Cultural Adaptation and Sensitivity

- UBC's primary approach - intensive professional development over 2 years - based on successful program developed and evaluated in Costa Rica (Rolla, Arias, Villers, & Snow, 2006, *Intl JI of Educational Res*) and on principles of improving early childhood language and social participation (Snow, Burns, & Griffin, 1998; Watt, Ayoub, Bradley, Puma, & LaBoeuf, 2006).
- *Mesa Técnica Interinstitucional*: Stakeholder feedback on all aspects of program development
- Designed to be integrated with, not supplant, existing curricula – a model for research-based practice independent of curriculum



Intensive Professional Development as Key to Quality Improvement

6 monthly cycles of professional development, in each of 2 years (preK and K years):

- Week 1: Half-day workshop
- Week 2: In-classroom coaching (Acompañamiento)
- Week 3: Individual feedback
- Week 4: Group reflection
- Topics: Bookreading, oral language, literacy environment, classroom management, health practices, family engagement, integration with existing curricula



Rationale for health component of UBC

- Top health problem for Santiago preschool children: respiratory problems
- 50% of our pilot sample of Chilean parents reported using inhalers or salbutamol for respiratory problems in their preschool-aged children
- Attendance rates 50% or lower during winter months in many preschool classrooms in low-income comunas of Santiago



The Health Component of UBC

Part 1. Health Screening

Controles de Salud (ensure well-child visits)

Height & weight screening

Developmental Screening

Dental Health

Balanced Score Card across domains to facilitate evaluation and tracking of follow-up

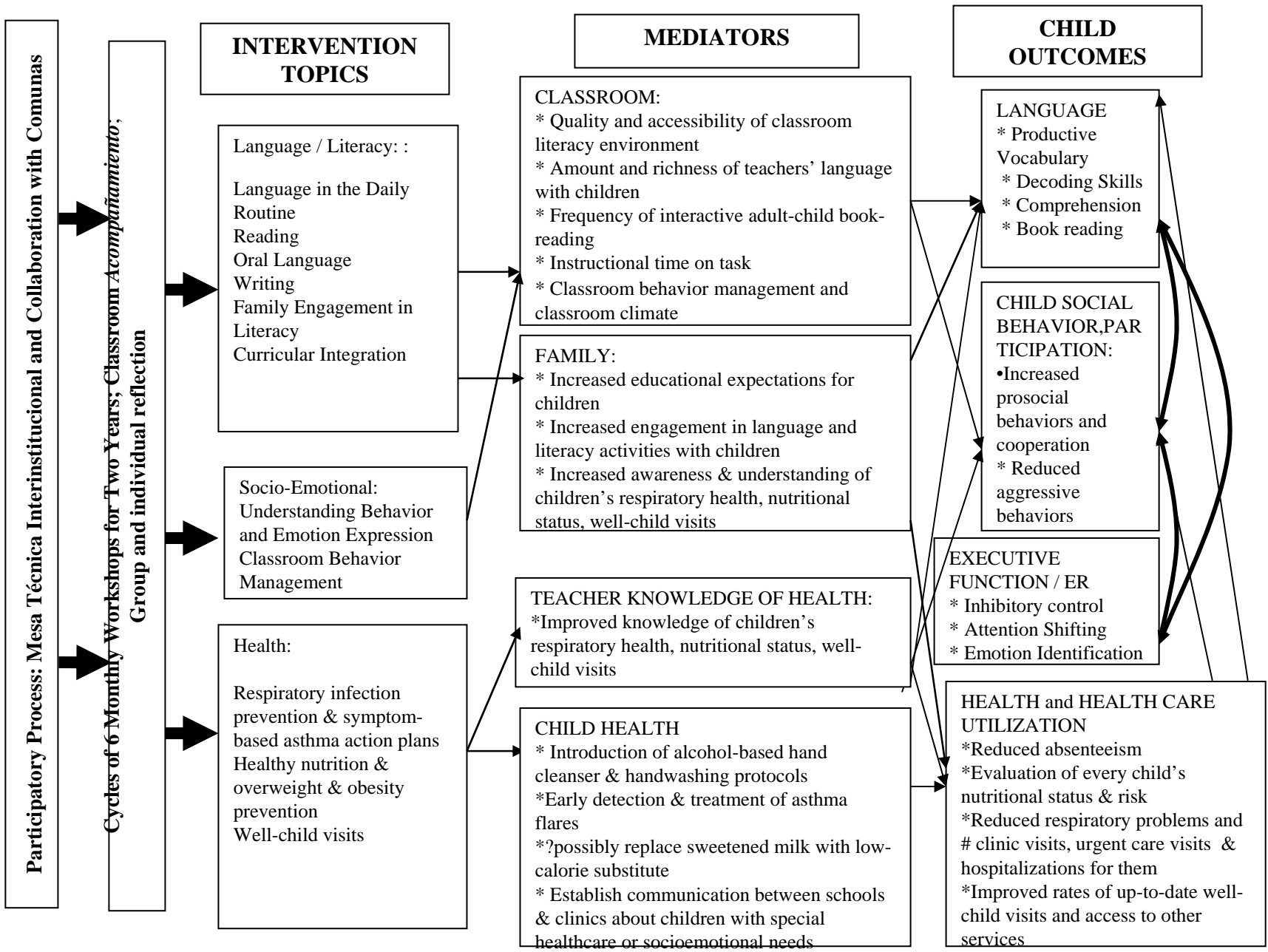
Part 2. Respiratory Health Intervention

Early detection and treatment of respiratory problems

Communication with and referrals to Consultorios

Handwashing / hand cleanser intervention

UBC: Theory of Change for Impact Evaluation



Pilot Year: Measurement

- Attention to both Chilean and international instruments (e.g., *Autoreporte del Bienestar Socioemocional*, Woodcock-Muñoz, Spanish versions; items from EDI).
- For the most part, assessments demonstrated expected expected variation (except gift-wrap measure of delay of gratification); differences across 4- and 5-year old samples; and cross-domain correlations (Yoshikawa, Barata, et al., 2008).
- Particular challenges: Measurement of attendance; classroom process measure (partly adapted from CLASS with tailoring to TOC).



Pilot Year Qualitative evaluation: Influence on practice

(Barata, Yoshikawa, Rolla, Marzolo, & Garrido,
2008)

- Improvements in pedagogical practice in the teaching of language:
 - *Nos aportaron nuevos materiales y estrategias.*
 - *Nos ayudó a recordar y dar mayor significado a lo que ya sabíamos, a enfocarnos en lo que es importante.*
 - *Nos entregó el conocimiento y la motivación necesarios para mejorar nuestras prácticas.*

Teachers had suggestions for more hands-on acompañamiento and changes in timing of training modules.



Qualitative evaluation results: Influence on children

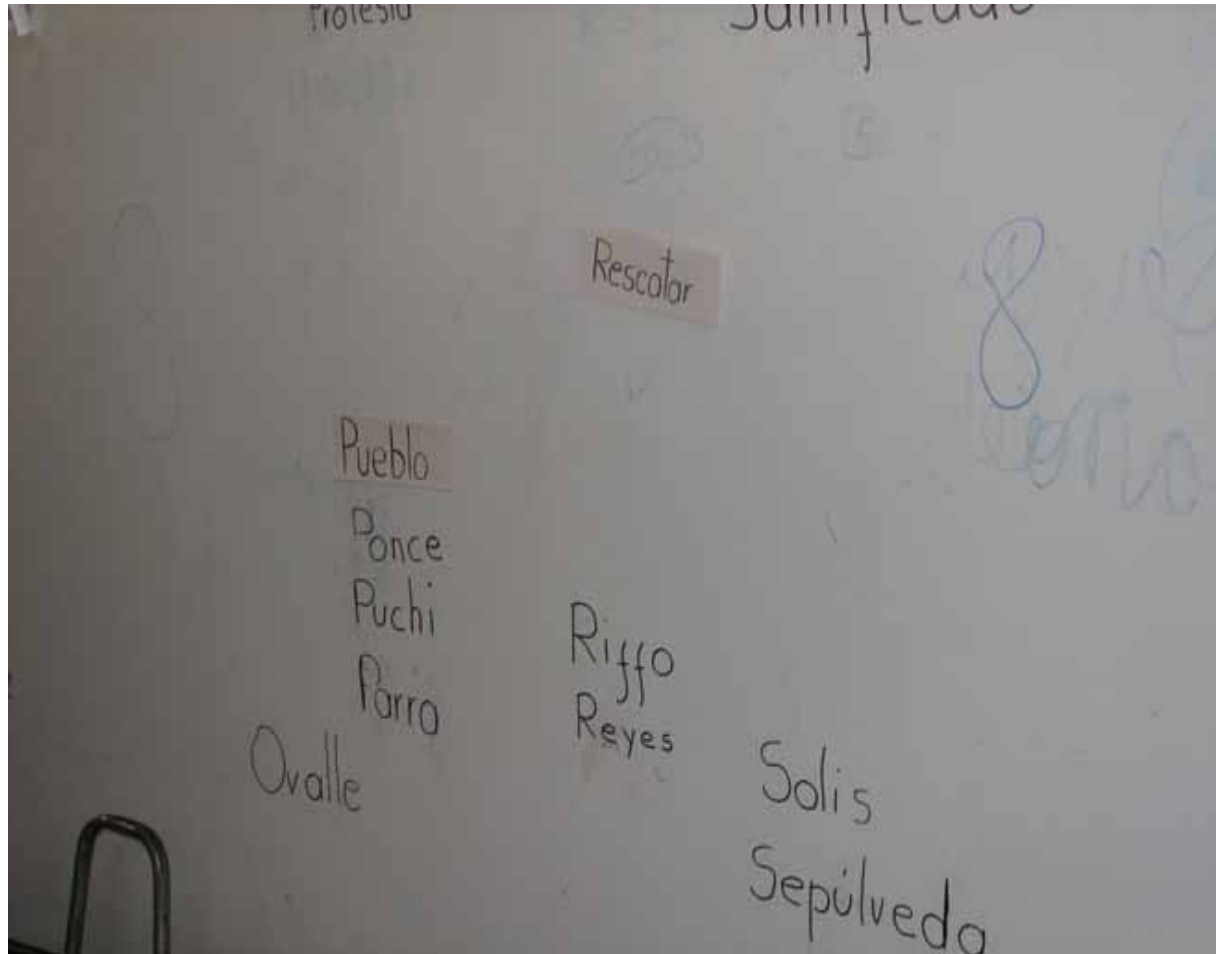
- *Enriquecieron su lenguaje y habilidades comunicacionales especialmente el vocabulario.*
- *Se aprecian más motivados para leer libros y otros tipos de textos.*
- *Demuestran más amor por la lectura.*
- *Hacen más preguntas en clases.*

Teachers reported greater increases in reading skills and interest compared to prior cohorts.

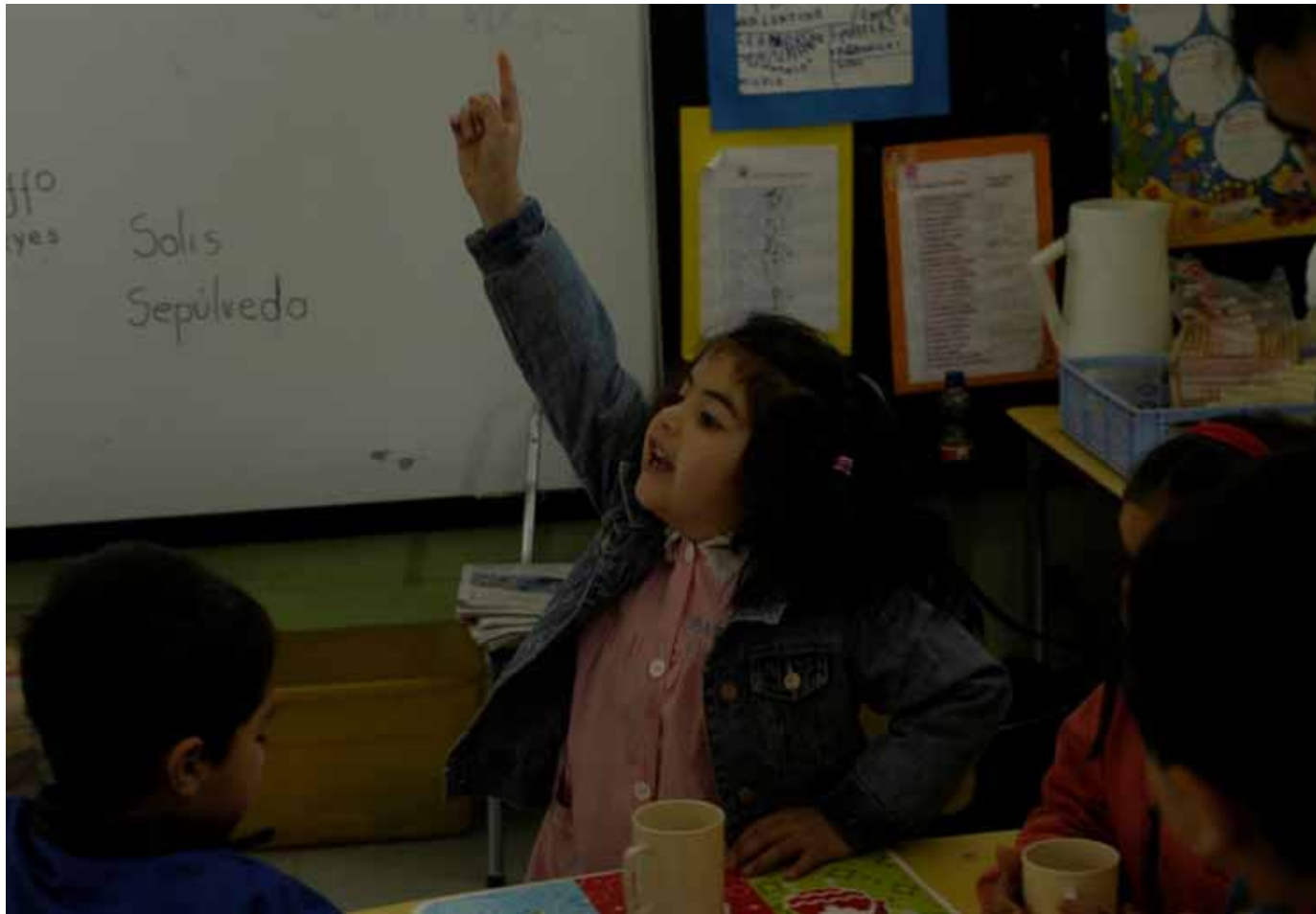
Process evaluation results: Changes in parents

- *“ Lo que más les ha sorprendido a los padres es la forma en cómo trabajan sus hijos, les ha cambiado la percepción que tenían del jardín. Antes pensaban que solo venían a comer, jugar y dormir. Ahora saben que se trabaja con un currículum. Se les dio la posibilidad de entrar a las salas y observar cómo la tía les contaba un cuento a los niños para que luego ellos hicieran lo mismo. Lo que más les llamó la atención a los padres fue descubrir las capacidades que tenían sus hijos”*

Changes in the literacy environment



Children talk more, ask more questions



Increases in children's love of reading



Parents who become more involved in the learning of their children





Impact Evaluation of *Un Buen Comienzo*

- Goal of the impact evaluation: What are the effects of UBC on hypothesized outcomes:
 - In children: language, literacy, socio-emotional development (externalizing behaviors), executive function, health (respiratory symptoms), health care utilization, and attendance?
 - In classrooms: Quality of classroom language environments and instruction?
- Counterfactual: Preschools as they exist without UBC (i.e., not no preschool)



Design of Experimental Evaluation

- Unit of random assignment: The preschool (crucial aspects of TOC and implementation are at preschool, not classroom or child, levels)
- A *place-randomized* design (Bloom, 2005; Moreno & Lugo-Gil, 2007; Raudenbush, Martinez, & Spybrook, 2007).
- How many schools? Statistical power analysis takes into account:
 - # of preschools,
 - # of children in each preschool,
 - hypothesized size of effect for different domains of outcome,
 - degree to which variation in outcomes occurs across vs. within preschools,
 - projected attrition of children and preschools,
 - how to treat municipalities within which preschools are clustered
 - power of covariates to predict outcomes at the school level and thereby increase precision of estimates, and
 - potential benefits of blocking
- Sample of 60 preschools in complete study, 2,500 children.
- Children followed through end of 1st grade.
- Successful randomization of initial cohort of preschools March 2008; completed pre-test data collection; now in midst of implementation in “Intervention 1” group of preschools.
- Both conditions receive intervention.

Longitudinal Design of the Impact Evaluation

		2008		2009		2010		2011	
		pre-test (abr-may)	post-test (oct-nov)	pre-test (abr-may)	post-test (oct-nov)	pre-test (abr-may)	post-test (oct-nov)	pre-test (abr-may)	post-test (oct-nov)
Escuelas 2010 (N = 28)	cohorte 3	Intervención 2				● ————— ●		● ————— ●	
		Intervención 1				● — X — ●		● — X — ●	
Escuelas 2009 (N = 26)	cohorte 2	l2		● — ●		● — ●		● — ●	
		l1		● — X — ●		● — X — ●		● — ●	
Escuelas 2008 (N = 6)	cohorte 1	l2	● — ●		● — ●		● — ●		
		l1	● — X — ●		● — X — ●		● — ●		
			prekinder	prekinder		prekinder	prekinder		kinder
				prekinder	prekinder		kinder		1° básico
			prekinder	prekinder		kinder	1° básico		

Total escuelas: 60

Total educadoras y técnicos: 300 aprox.

Total niños: 3000 aprox.

- X** = intervención
- = evaluación



Communication of Value of an Experimental Design

- Investments in the quality of ECCE can make a long-term difference for the next generation of Chilean citizens and help reduce educational inequality.
- Only evaluations with ability to draw causal inference can estimate the true value of the investment in children's development.
- Evaluations with strongest ability to draw causal inferences can have lasting policy impact (e.g., across administrations; cf. Progresía / Oportunidades study).
- Communication of the fairness of a *sorteo* (lottery), given insufficient current resources to implement UBC in all preschools.
- No no-treatment control; all preschools receive some intervention.

Scale and Sustainability across Administrations: UBC Strategies

- **Rigorous impact study** – value of strong research design in advocacy and policy longevity?
- **Buy-in at leadership level** – Mesa Tecnica
- **Human Capital Development and Staffing at Scale** – recruiting next generation of trainers from prior generation of teachers
- **Institutional Support** – development of an NGO to monitor quality in expansion – intermediary organization
- **Public – Private Partnerships** – to provide independent sources of funding across administration
- **Communication** – Key advocates who communicate program and research to multiple policy makers and stakeholder groups

Conclusion

- Improving the quality of preschool education is a critical international goal for the millions of children who do not reach their developmental potential due to poverty, health or environmental risks (Grantham-McGregor et al., 2007).
- International indicators work in EC has focused primarily on developmental outcomes of children.
- Processes to conceptualize, measure, and monitor quality of ECCE lag behind.
- Developing and evaluating approaches to improving quality represents the next challenge in ECCE internationally.
- *Un Buen Comienzo* and its evaluation thus aim to inform the question of how to improve ECCE quality and children's prospects not only in Chile, but in the rest of Latin and South America.

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