



## Development and outcomes of a community-based intervention to improve parents' use of inquiry in informal learning contexts <sup>☆</sup>

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### ARTICLE INFO

*Article history:*  
Available online 9 May 2008

*Keywords:*  
Psychological distancing  
Inquiry  
Parenting interventions  
Representational competence  
Active engagement in learning  
Parenting education

### ABSTRACT

The development and evaluation of a parenting intervention based on Sigel's distancing theory and conceptualization of intervention processes is described. An iterative program development strategy was comprised of 3 studies: (1) Results of interviews with lower-income parents of Grades 1–4 children regarding views of children's futures and approaches to learning at home and school informed decisions about program content; (2) Observation and interview data from a multi-site implementation of a preliminary program curriculum contributed to revisions of the intervention; (3) A short-term experimental study of the program with a diverse population of parents in 5 communities revealed modest positive intervention effects on child participation in daily family routines, parent use of inquiry and incorporation of the child's perspective in problem-solving situations, and parent beliefs about influences on children's school achievement. Findings point to the promise of employing distancing strategies in a discussion group intervention to promote parents' use of inquiry in routine interactions with their children.

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### 1. Introduction and overview

A requisite of learning is the ability to use and create symbolic representations and mental images of knowledge to reconstruct past experiences, plan, and predict or anticipate. This set of skills – known as representational competence – is integral to basic and advanced levels of cognitive functioning, including solving problems, communicating ideas, and considering alternative perspectives. A growing empirical and theoretical literature indicates that representational competence is enhanced when children respond to and generate questions that create psychological distance from the immediate context in order to think abstractly about concepts and relationships (see Sigel, 1993). Accordingly, recommended teaching practices issued since the late 1990s recognize the benefits of inquiry-based instruction in classrooms for promoting students' active engagement in learning (e.g., Bowman, Donovan, & Burns, 2001). Strategies for helping parents incorporate meaningful questions into family interactions with their children have received limited attention. Yet the development of programmatic support to parents for promoting their children's representational competence is a timely area of research in view of policy interest in increasing parent involvement in their children's education in the context of persistent academic achievement gaps in U.S. schools (Epstein & Sanders, 2002).

This article reports three studies on the development of a brief community-based intervention aimed at increasing parents' use of inquiry in routine interactions with their school-age child. A premise of this work is that programmatic efforts to encourage parents to use teaching strategies that actively involve their child in everyday learning situations may provide potent challenges to

<sup>☆</sup> This work was supported by grant awards #910190 and #940304 from the Lilly Endowment, Inc. to Purdue University. We are deeply indebted to Irving Sigel for his contributions to the project as primary consultant. We also acknowledge the efforts of Dorane Fredland, Denise Alvine, and Mary Kay Helling, and the invaluable expertise of research assistants, program facilitators, parents, community and school collaborators, and members of the project's national advisory committee.

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parents' existing beliefs and practices in three key areas: (a) *how children learn* (passively receiving information vs. actively reflecting, predicting, questioning, hypothesizing); (b) *the purpose of asking questions* (determine whether new information has been retained vs. stimulate thinking or identify what a child knows for purposes of supporting new learning via scaffolding); and (c) *where children learn* (formal, organized contexts vs. informal, spontaneous situations).

A corollary of our premise is that a critical task of interventions is to introduce information in ways that encourage participants to thoughtfully consider discrepant ideas. To this end, an iterative approach to program development was pursued (Sechrest & Figueredo, 1993), wherein results of research and pilot testing were used to frame and revise the approach to presenting information. Specifically, Study 1 investigated parents' ideas about children's learning, Study 2 examined parents' responses to a preliminary version of the program, and Study 3 assessed the implementation and parenting outcomes of a revised version of the program. Irving Sigel's seminal research on distancing theory and his conceptualization of intervention issues and processes guided the development of the three studies reported in this paper.

### 1.1. Children's representational competence and distancing theory

Representational competence requires the understanding that knowledge (e.g., of an object, activity, relations) can be transformed into a symbolic mode (e.g., pictures, signs) that retains its intrinsic meaning. For example, an object and a picture of the object have a shared meaning in spite of differences in representation. Representational competence also entails the ability to transcend the ongoing, concrete context by reconstructing previous experiences as well as planning, predicting, and anticipating the future (Sigel, 1991).

Sigel's distancing theory is the result of his search for the ontogenesis of representational competence. He posits that representational competence is developed and strengthened through a psychological separation of the child from the immediate, ongoing present. Adult distancing acts that place a cognitive demand on the child to reconstruct past events, anticipate the future, or assume alternative perspectives on the present facilitate this psychological separation. Inquiry is a major component of distancing. Sigel (1990a) proposed a typology of the content of distancing acts: low-level (e.g., ask child to describe, define), medium-level (e.g., ask child to infer similarities/differences), and high-level (e.g., ask child to infer cause–effect).

In his initial work, Sigel conducted studies in which public school teachers were trained to use questions to teach kindergarten children that three-dimensional objects and their photographic representations were members of the same class (e.g., Sigel & Olmsted, 1970). Teachers' use of inquiry strategies had an important cognitive impact on the children, and provided a substantive base of a more systematic test of distancing theory in two preschool programs (Sigel, 1990a).

The early childhood education programs established in Buffalo, NY and later at ETS in Princeton, NJ, studied whether teachers' use of distancing strategies significantly improved children's representational competence. Instructional approaches were similar across the two programs (see Copple, Sigel, & Saunders, 1979). The Buffalo program enrolled 2–2 1/2 years old children from low-income families; the ETS program served middle-class 4-year old children. The Buffalo program found that children enrolled in the distancing program for 2+ years demonstrated significant gains in fluency and comprehension of language, planning, and reconstruction of previous experiences in comparison to children enrolled in community child care centers (Sigel, 1973). A follow-up study in Grade 2 found that children who attended the preschool distancing program continued to be highly verbal and intellectually curious in comparison to peers (Cataldo, 1978). Similarly, children enrolled in the ETS distancing program for one year demonstrated stronger language skills and performed better on tasks requiring prediction than children enrolled in a traditional preschool program (Sigel, 1979).

The finding that teachers' use of inquiry and related distancing strategies enhanced representational competence of children from lower-income and middle-income backgrounds offered an empirical basis for distancing instructional strategies. The benefits of posing meaningful questions to children have been demonstrated in other early childhood curriculum studies (e.g., Schweinhart, Weikart, & Larner, 1986) and there is strong research evidence to indicate that K–12 students' academic performance is improved when they ask and answer deep questions to develop explanations (e.g., Craig, Sullins, Witherspoon, & Gholson, 2006). An inquiry-based approach to teaching is now a key element of recommended practice in early childhood programs (e.g., Copple & Bredekamp, 2006). Evidence-based recommendations for instruction in K–12 education include helping students ask deep questions as well as connecting and integrating abstract and concrete representations of concepts (Pashler et al., 2007).

In the late 1970s, Sigel and his colleagues at ETS launched a series of research projects focused on psychological distancing in families. The studies examined variations in and outcomes of distancing acts in different family contexts (e.g., Sigel, 1982, 1990a) as well as parental beliefs as determinants of distancing behaviors (e.g., McGillicuddy-De Lisi, 1982a). The research model posited a dynamic system of mutual influences, with parent beliefs influencing their distancing strategies, distancing strategies influencing children's representational competence, which in turn influenced parent childrearing beliefs.

The family project focused on variations in distancing strategies in families that varied in number and birth spacing of children and in social class background. Parental distancing strategies were observed during parent–child engagement in laboratory tasks, parents' childrearing beliefs were examined through interview protocols, and children's representational competence was assessed with multiple measures. Children's ages ranged from 3 1/2 to 12 years across several studies. Results indicated that parents' use of distancing teaching strategies were predictive of children's performance on tasks that independently assessed representational competence. Middle-income families were more likely than working-class families to employ higher-level distancing strategies, although middle-income families were not necessarily providing consistently high levels of distancing actions (Sigel, 1982, 1990a).

Parents' distancing acts were related to their childrearing goals and beliefs about how children learn. Views of the child as an active processor of information were related to high-level distancing acts whereas more passive views of development were

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