Final Report
Title of study: *The "Rapid Prompting" Method of Communicating with Severely*
Autistic Children: a Language Socialization Study
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Introduction

The study examined from an anthropological, language socialization perspective a practice of "Rapid Prompting" used for communication with children diagnosed with autism. The practice of "Rapid Prompting" involves tactile, visual and linguistic stimuli that focus the child's attention on written alphabetic and numerical symbols, which the child is repeatedly and rapidly prompted to indicate. The "Rapid Prompting Method" (RPM) was originally developed in India by Ms. Soma Mukhopadhyay, a mother of a child with autism. It was first introduced by Ms. Mukhopadhyay at a non-public school, Carousel, in Los Angeles in 2000, after she and her son came to the United States on a grant from the Cure Autism Now Foundation. It has been used at the Carousel school since that time, as well as in other educational and home settings across the United States.

The study focused on the characteristics of the "Rapid Prompting" as it was undergoing a spread across generations of users, i.e. as it was passed on from one generation of users to the next. Specifically, the study compared video-recorded interactions of Ms. Mukhopadhyay's practice of RPM with the practice of RPM by the parents and teachers socialized and trained by her ("First Generation" RPM), and with the practice of RPM by the parents and teachers trained by the "First Generation" users ("Second Generation" RPM). Two communities of families were followed, one in Los Angeles and one in Chicago.

The study employed ethnographic methodology, which included participant observation and video recording in naturalistic environments. The data corpus analyzed in the study consisted of approximately 200 hours of video recorded interactions involving 16 children with severe autism and their parents, siblings, and teachers as they were socialized by an experienced adult instructor into the use of the practice of "Rapid Prompting"; and as adult caregivers and siblings were using "Rapid Prompting" to communicate with children with autism in everyday social situations. Six of the children

and their families lived in Los Angeles, and ten lived in Chicago. The discursive characteristics of "Rapid Prompting" were analyzed when used as an educational approach in mostly dyadic, structured instructional activities, and as a communicative practice in the flow of everyday multi-party conversation across social settings. The results of the study suggest that the evolution of the use of "Rapid Prompting" by families with children with autism in two geographical areas, Los Angeles and Chicago, created speech communities with evolving language socialization practices and with similar educational goals. These communities also faced similar challenges that included integrating " Rapid Prompting" into the children's school settings, training educators and family members into its use, and ensuring its consistent use by interlocutors across social situations.

The National Academy of Education / Spencer Project: brief background

This study builds upon a Spencer-funded *Ethnography of Autism* project on the everyday lives of high-functioning autistic children at school and home directed by linguistic anthropologist Elinor Ochs and clinical psychologist Lisa Capps in 1997-2000. Unlike the original Ochs and Capps' study, however, the present study examined social interactions involving the most severely impacted, often non-speaking children with autism. The children and their interlocutors use a practice called "Rapid Prompting Method" (RPM) which appears to mediate the children's communicative limitations. It involves tactile, visual and linguistic stimuli that organize and focus children's attention on written alphabetic and numerical symbols, which children are repeatedly and rapidly prompted to indicate. This type of communication takes place in two distinct social situations:

1) in an educational setting, usually in a side-by-side dyadic interaction with a teacher or a parent, where the child is expected to indicate on a letter- or number -board an answer to a specific question based on currently studied academic material.

2) in a multi-party social situation, where the child is expected to indicate a contribution in a conversational exchange, for example, at a restaurant ordering food, or participating in a family dinner conversation at home.

The "Rapid Prompting Method" was originally created in India by Ms. Soma

Mukhopadhyay, a mother of a boy with severe autism, Tito, who is 17 at the present time. In 1999, Ms. Mukhopadhyay was invited to bring Tito for a visit to the British National Autism Society in London. There Tito was tested by three autism experts, L. Wing, J. Gould and B. Hermelin who established that Tito possessed high intelligence and receptive language levels. In 2000 on a grant from Los Angeles-based Cure Autism Now Foundation, Soma and Tito Mukhopadhyay came to the United States where Ms. Mukhopadhyay began implementing "Rapid Prompting" in a specialized school for children with developmental delays, Carousel. Ms. Mukhopadhyay is currently practicing the "Rapid Prompting Method" through her affiliation with a parent organization Helping Autism through Learning and Outreach (HALO) based in Austin, Texas.

Methodology and the Data Corpus

The ethnographic study employed language socialization and discourse analytic theoretical frameworks (e.g. Ochs et. al., 1992; Ochs et al., 1997). Ethnographic methodology involved   participant observation, rigorous and systematic data collection, video recording of social interaction in naturalistic environments, field notes and documentation of relevant artifacts and literacy materials. Where possible, two cameras were used to capture both the interaction between the children and their interlocutors, and the written media (alphabetic /numeric boards) to which the children were prompted to point.

Study Participants:

16 autistic children (6 in Los Angeles and 10 in Chicago), ages 4-18, with a prior diagnosis of autism; their family members, teachers and aides. The majority of the children were non-speaking. The subject pool composition was as follows: 14 boys/2girls; 14 Caucasian / 2 African-American. Most of the participating children's families were affiliated with the Cure Autism Now Foundation, a funding and advocacy organization based in Los Angeles with chapters across the country, including Chicago.

Data corpus:

 I. *"Original" RPM practice*

 Los Angeles cohort: Video-recorded classroom interactions of 6 children (ages 7-12) with Ms. Soma Mukhopadhyay. These children were socialized into the use of RPM

directly by her at the Carousel school. One of these 6 children has been additionally video-recorded working with Ms. Mukhopadhyay at his home.

Chicago cohort: Video-recorded interactions of a boy, age 16, with Ms. Mukhopadhyay during the family's visit to Los Angeles for RPM training.

II. *"First Generation"* RPM practice:

Los Angeles cohort: Video-recorded interactions of 6 children (same as above, ages 7-12), their parents and teachers, in Los Angeles. These data were collected in 2000-2003 and were provided by the Cure Autism Now Foundation; approx. 100 hours of video were selected from the total CAN video archive of approximately 500 hours to document the development and change in children's communicative competence over time.

Two focal adult practitioners of RPM from the Los Angeles cohort, a mother and a teacher, were subsequently followed working with other parents and teachers, and were interviewed on multiple occasions.

Chicago cohort: Additional "first generation" RPM data includes approximately 4 hours of video of interactions of Ms. Soma Mukhopadhyay and the family of a 16 year-old boy and his teacher from the Chicago cohort (same as above). This boy's mother and teacher were the two focal RPM practitioners who were later video-recorded during their work with other parents in Chicago.

III. *"Second generation"* RPM practice: children and their interlocutors (mostly mothers) socialized into the use of RPM by the "*first generation"* practitioners (two mothers and two teachers, in Los Angeles and Chicago, approx. 100 hours).

Los Angeles cohort: video-recordings of a RPM-based school program, *Cogwheels*, involving two children with autism (only one was using RPM, from the original Los Angeles cohort) and three teachers trained by two "*first generation"* practitioners (a mother and a teacher) in Los Angeles. This longitudinal data corpus has been collected over the past three years, 2003-2006; data collection at this site will continue after the present NAE/Spencer-supported study is completed.

Chicago cohort: video-recordings of 10 severely impacted children with autism, ages 4-18, their parents and teachers in Chicago interacting with two "*first generation"* practitioners, a parent and a teacher; family dinner interactions; classroom interactions

using RPM. Data collection at this site will continue after the present NAE/Spencer-supported study is completed.

IV. *__Video-recorded interviews__* with Soma Mukhopadhyay at UCLA, and with "first-" and "second generation" RPM users (parents, siblings, teachers and aides) in Los Angeles and Chicago.

Table 1 below shows the 'evolution' of the use of RPM by the focal adult practitioners and their respective communities of practice:

Ms. Soma Mukhopadhyay

'FIRST GENERATION' RPM:

Mother 1   **Teacher 1**   **Mother 2**   **Teacher 2**

LOS ANGELES   *CHICAGO*

'SECOND GENERATION' RPM:

COMMUNITY 1   **COMMUNITY 2**   **COMMUNITY 3**

"Cogwheels School"   "Carousel School"   **"home-based"**

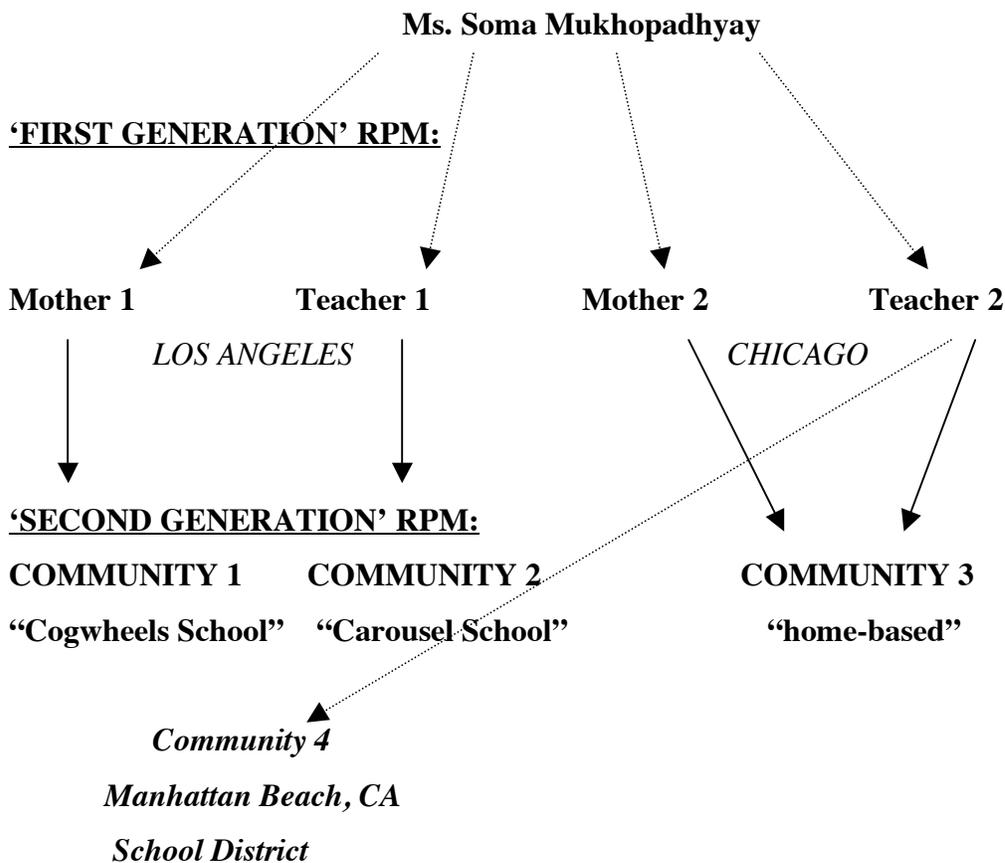*Community 4*

Manhattan Beach, CA

School District

Table 1: The evolution of RPM

All video-data were digitized and uploaded to a password-protected digital data server at the department of Anthropology, UCLA. Specialized software, vPprism, was used for analysis. The software allowed for coordination of video with the transcript and was used for transcription and coding of analytically relevant segments of the data.

***Theory-building of an alternative model of autism through the use of the Rapid
Prompting Method***

Cure Autism Now (CAN) Foundation was created by parents of children with
autism to raise funding for research these parents deemed necessary, and the mission of
the foundation is reflected in its name: to find a cure for autism. CAN's very substantial
membership consists of parents whose second profession frequently is being an educated
parent of a child with autism in terms of current scientific research. Because the
foundation was instrumental in bringing   RPM to the U.S., and because the families who
began practicing the method were affiliated with CAN, the group of families participating
in this study shared a very important characteristic: while being up-to-date on the current
scientific research, they also co-constructed an alternative theoretical model of autism.

Paraphrasing Schieffelin and Ochs (1986), who wrote that "the notion of
language socialization (…) concerns two major areas of socialization: socialization
through the use of language and socialization *to* use language." (p. 163), this project
demonstrates how socialization into the use of RPM for communication with autistic
children enfolds in two major areas as well: socialization through the use of RPM of a
certain set of socially organized dispositions (what Bourdieu, 1977, 1990 called *habitus*)
goes hand in hand with socialization *to* use RPM. Language socialization perspective
illuminates how ideologies, values, emotions, institutions, and practices organize the
ways novices become competent communicators over the human life span (Ochs, 1984;
Ochs and Schieffelin, 1986; Schieffelin and Ochs, 1986). Ochs and colleagues' university
physic laboratory study (Ochs and Jacoby, 1997; Ochs et al., 1994; Ochs et al., 1997)
examined how members of a physics research group collaboratively develop their
scientific ideas and build a framework for thinking about them. Expanding the scope of
language socialization scholarship from adult-child interaction to interaction between
adults of different levels of competence, the physics lab study showed how through
practice-based, interactive apprenticeship expert members socialize novices into a certain
kind of scientific and communicative competence. Theory-building, however, does not
always take place at the laboratory: in an earlier study, Ochs and colleagues (Ochs et al.,
1992) showed that theory-building can be found in the most quotidian social interactions
such as family dinner narrative discourse.

Drawing upon this scholarship, the present study showed how in the process of socialization into the use of RPM with the children, parent-novices collaboratively co-constructed with parent-experts an empirically-based theoretical framework of autism. Specifically, this alternative model of autism holds that the children possess cognitive and affective abilities that have to be accessed through available perceptual and sensory channels (visual, auditory, and/or tactile), which RPM allows to achieve.

These parents' theoretical view of autism often stood in direct opposition to the common theory of the disorder commonly existing in most research, clinical and educational settings, especially in terms of the "co-morbidity" of severe autism with mental retardation. It is the alternative theoretical model of autism co- constructed by the parents, however, that afforded the use of practice of RPM for communication with children who previously have been considered incapable of such an activity. Moreover, in several families, the use of RPM in educational settings allowed substantial gains in academic attainment, often bringing the children's educational programs to grade-level curricula.

It is important to note that in case of at least one family, when Los Angeles Unified School District sent an independent evaluator / clinical psychologist who used RPM to assess a 14 year old child's cognitive and language abilities, previously evaluated by other clinicians as being at a 2-year old level, the results for the Verbal Ability on Woodcock Johnson III Tests of Cognitive Abilities was at 96 percentile, an age equivalent of 21.

There was a tension, however, not only between the "research model" of autism, and the parents' model, but also between Ms. Soma Mukhopadhyay's model of autism and the model co-constructed by Euro-American parents in the course of learning to use RPM. In an interview conducted for this project, Ms. Mukhopadhyay described how, when told by clinicians in India that her three-year-old son, Tito, was autistic and mentally retarded, she was compelled to prove them wrong. She embarked on a rigorous, literacy-saturated home-based academic program. Her first inclination that Tito could be accessible through a literacy-based approach came when she noticed him staring at calendars. Using a calendar as the first teaching material, she taught him a concept of a number and number progression, and then the alphabet and the concept of spelling. She

also taught him to indicate written symbols with his index finger, and eventually to write independently with a pencil. Later, Tito's curriculum included collected works of Charles Dickens and other classics, which Ms. Mukhopadhyay read to him out loud. Thus, Ms. Mukhopadhyay's original   practice of RPM was articulated as an "educational approach" rather then a "communicative practice".   Today, the website that promotes RPM states that it " is to increase academic learning and communication and promote understanding and respect for ASD students around the globe" (Helping Autism through Learning and Outreach, 2004).

Analyses of interviews and video-recorded interactions suggest that Ms. Mukhopadhyay's goal to demonstrate that children with autism were intellectually capable, and often exceptional, permeated her practice of teaching Euro-American families to use RPM in the Unites States. Analysis of parental interviews suggested, however, that Euro-American parents often did not share this goal and had different priorities. Specifically, the parents adopted the practice of RPM into the conversational domain and in the most successful cases integrated it as a *conversational* rather than an *educational* practice, using it as a medium for communication about the everyday concerns and personal experiences rather then primarily making it a vehicle for academic learning. Furthermore, the adoption of RPM as a *conversational* practice was a prerequisite for the successful use of RPM for *educational* instruction, in the majority of cases. The children's ability to communicate in the classroom about educational material rested on their ability to communicate in social interaction, as is the case with typical developing children. The opportunities to communicate in social interaction through RPM, however, had to be purposefully and continuously created by the parents, for example, by keeping the letter board with the children at all times. The tension between the educational and conversational ways of practicing RPM, and the implications it had for the children's development of communicative competence and their participation in the social life of their families and communities, is an important area for future research.

Organization of Participation in the " Rapid Prompting Method"

Organization of participation in interactions where RPM was used was compared to other common interventions, such as speech therapy (Ochs, Solomon and Sterponi, 2005). In speech therapy interactions, participants maintain face-to-face orientation, and the adult communicative partner has an expectation that his or her face will be the focus of child's attention. Moreover, speech is considered to be the default medium for both the clinician and the child, and the therapy is intended to control social behavior or mediate social - communicative impairments, and eventual use of spoken language is the desired end-point of the intervention. Parents are usually not expected to become as competent as speech therapists in this therapeutic modality.

Alternatively, RPM is characterized by side-by-side (rather than face-to-face) orientation, focus on the letter/number board rather than on the interlocutor's face, and lack of expectation that the autistic child will communicate verbally. In the course of socialization, autistic children *and* their parents were positioned in the role of novices, thus distributing the efforts of learning among interlocutors, rather than placing the responsibility for success on the autistic child, or the parent only. Moreover, speech as default medium is used for non-autistic interlocutors only, and for severely autistic child the default communicative practice is pointing to written symbols. The practice is not specifically intended to control social behavior or mediate social - communicative impairments, rather, it is designed to allow the child to communicate in the modality possible, given the child's limitations; and eventual use of spoken language is not the desired end-point of the method. Finally, the parents ***are*** expected to become as competent as the expert RPM communicators at using this approach. As Ochs, Solomon and Sterponi (2005) argue, Ms. Mukhopadhyay's method challenges the assumed link between 'non-verbal' children with autism and mental retardation. This communicative approach as an integrated repertoire of forms and strategies is highly innovative relative to Ms. Mukhopadhyay's cultural background and relative to other interventions developed for communicating with children with severe autism.

Specifically, Bengali caregivers massively simplify and are highly expressive when interacting with infants. Like Bengali speaking caregivers, Ms. Mukhopadhyay greatly accommodated to and simplified for children with severe autism. Unlike Bengali

speaking caregivers, however, her innovations were in the use of certain key forms and strategies for simplifying that diverge from those characterizing Bengali baby talk register. See Ochs et al. (2005) for an in-depth analysis of the transformation in Child-Directed Communication that is afforded by the use of RPM.

Examples of artifacts:

The "Rapid Prompting Method" as an Educational Approach and a Communicative Practice

Community of practice is a social group that develops around a common concern, characterized by mutual engagement, shared ideologies, and cultural repertoire. The changes in the RPM practice are reflected in Table 2 below:

Ms. Mukhopadhyay's RPM	"First" and "Second Generation" RPM
- used mostly for academics	- used for academics and conversation
- used mostly in a school settings	- used across settings
- short periods of interaction (10-15 minutes)	- longer periods of interaction, depending on social situation
- rapid tempo	- slower, more conversational tempo
- Prompts used: "fast, fast, fast, fast!"; "c'mon, show"	- Prompts used: "Look!", "Get it!", "And the next is"
- letter board used is "ABC"	- letter board used is "ABC" plus "start", "space", "yes", "no" (L.A) - QWERTY and other word-processing devices (Chicago)

Table 2: Characteristics of RPM across generations of use

Characteristics of RPM as educational approach

RPM is characterized by classroom discourse speech exchange system "Initiation-Response-Evaluation" basic sequence (Mehan, 1982). When used in the classroom setting, RPM was characterized by dyadic interactional composition with a stable (teacher -student) participant positioning. The use of RPM in the structured "classroom" environment was accompanied by the salience of declarative, factual knowledge and assumption of a single, known and knowable "correct answer" that the child was expected to indicate. The use of RPM in the classroom involved a well defined range of communicative competence as it related to academic learning, but did not afford much improvisation or choice-making.

Characteristics of RPM as an communicative practice

In multi-party everyday interaction, fluid participant positioning (parent -child; sibling-child; etc.) was observed. When used across social situations in a variety of settings, such as restaurants, book stores, family dinner times at home, etc., the method of communication appeared more unstructured, contingent, and open to improvisation. A wider range of epistemic possibilities (past personal experience, shared family history, imagined futures, factual knowledge) was assumed by the participants, and the fluidity of the topical common ground was continuously re-established. Unlike the classroom use of RPM where the teacher was expected to be the evaluator of the validity of the child's contributions, in the conversational use of RPM there was an assumption of the child's right to the answer known only to him/her. Such use of RPM projects projected a wide range of communicative competence as it related to participation in the flow of social interaction, and afforded opportunities for choice-making.

Challenges of RPM:

RPM is a complex communicative modality that required systematic and extensive training by an expert RPM practitioner. One of the challenges of socialization into the use of RPM is the necessity to overcome communicative inertia faced by the parents. Learning to use RPM often involved fundamental changes in parental

perceptions of the children's communicative potential, and required changes in communication at the everyday level.

At present, only a few families have been successful at bringing RPM into the schools. Several families who did not succeed to integrate RPM into the school programs opted to create home-based educational settings (hired teachers and trained them). Schools and school districts' willingness to transcend the limits of their institutional cultures had proven to be critical to the viability of this approach in traditional school settings.

Future directions:

The Carousel school in Los Angeles is the future site of data collection to further investigate the institutional and family dynamics that characterize the use of RPM in a relatively large school community. RPM is currently used at the Carousel school as the main method of educational instruction. Carousel is a non-public school serving the Los Angeles Unified School District. This school is attended by approximately 100 children, ages 2-18, of which approximately 50 are using RPM every day at school and at home.

Manhattan Beach School District in Manhattan Beach, California, after hiring one of the focal participants in this study, recently re-designed educational and therapeutic services for children with autism in the district some of whom are now using RPM as a communicative modality. The use of RPM by this school community necessitates future data collection at this site.

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