

Cultural Variation in Children's Attention and Learning

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At age 80, Caroline Pratt, a leader in education who grew up in the mid-1800s, thought back on her childhood community and the abundance of opportunities for learning through observing and participating in community activities:

When I grew up in Fayetteville, New York, school was not very important to children who could roam the real world freely for their learning.... No one had to tell us where milk came from, or how butter was made. We helped to harvest wheat, saw it ground into flour in the mill on our own stream; I baked bread for the family at thirteen. There was a paper mill, too, on our stream; we could learn the secrets of half a dozen other industries merely by walking through the open door of a neighbor's shop. (Pratt, 1948, pp. xi-xii)

These experiences underline important cultural aspects of childhood that have come to interest development psychologists. Psychologists have begun to focus on the ways that social, cultural, and historical processes organize the lives of children and their communities. We focus this essay on research on cultural variation that has taught us about differences in how children learn and pay attention.

Cultural research has inspired important innovations in the organization of children's learning opportunities. For example, the encouragement of collaboration in classrooms was prompted in large part by observations of the home community practices of native Hawaiian children, which sparked the inclusion of group work and other new approaches in classrooms in one innovative school, which then spread to many other schools (Tharp & Gallimore, 1988). Such innovations are especially important for children whose community background differs from mainstream middle-class experience. At the same time, innovations based on cultural research with specific populations have also improved learning opportunities for children from other backgrounds, including 'mainstream' middle-class backgrounds.

In our own research, we have studied cultural differences in how children pay attention to events going on around them and learn from those events. Our focus is on examining patterns of

attention and learning that seem to be related to children's experience in two different learning traditions: One approach to learning emphasizes participation of children in a wide range of family and community activities; it seems to be common in Indigenous-heritage communities in North and Central America. Another approach to learning, which seems to prevail in middle-class European-heritage communities, separates children from the range of family and community activities and instead creates exercises and lessons for them to do in specialized settings such as school.

Learning through Observing and Pitching-In Versus Lessons Out of Context of Productive Activity

Studies of Indigenous communities of the Americas have documented a way of organizing learning in which children are present during family and community activities and expected to help out as they become able (Morelli, Rogoff & Angelillo, 2003; Rogoff, 2003). We call this way of organizing how children learn "*learning by intent community participation*" (Rogoff et al., 2003; Rogoff et al., 2007).

In many traditional Indigenous communities of the Americas, children are embedded in community activities from a very young age. For example, in Zinacantán, México, 8-month-old infants spend two-thirds of the day carried on a caregiver's back as she goes about her daily activities (de Leon, 2000). As children grow older, they continue to be present when adults engage in important daily activities such as buying and selling in the market, tending to fields and engaging in other work, conversing, and nearly all community activities. In such Indigenous communities, children are alert for important information even while engaged in another activity like play (de Haan, 1999; Gaskins, 2000). They keenly observe and pitch-in to ongoing events, many of which are not directed toward them or designed to instruct. For example, a child

accompanying a parent to sell items in the market can see how the parent makes change and begins to help to do this when ready. Children are expected to observe ongoing activities and develop keen attention to events around them.

By contrast, children in many middle-class European-American communities are frequently segregated from the range of community social activities and work. Middle-class European-American toddlers have less access to adults' work and more involvement in specialized child-focused activities than children in two Indigenous communities—a Mayan town in Guatemala and Efe foragers of the Democratic Republic of Congo (Morelli et al., 2003). Thus, middle-class children have comparatively restricted opportunities to learn by observing the range of important community activities.

Instead, middle-class children are often involved in teachers' or parents' lessons or exercises that are separate from the productive activities of everyday life. Middle-class adults' interactions with children often involve lessons that do not include using the skill being taught in order to accomplish something important in children's lives, such as teaching vocabulary words without using them to communicate. In such lessons and exercises, the children's attention and motivation are frequently managed by adults, rather than by the children themselves. For example, European-American middle-class mothers took responsibility for making their toddlers learn, in a teaching task, by trying to arouse the children's interest and focus their attention, whereas Gusii (Kenyan) mothers with little schooling seemed to expect toddlers to be able to learn by observing a demonstration of how to do the task (Dixon et al., 1984).

Cultural Comparisons of Attention

Is learning through keen observation more common in Indigenous communities of the Americas than in middle-class US communities? This idea has come from research that has

examined learning through observation in Indigenous communities, but without systematic comparisons with middle-class US communities.

Several systematic comparisons of cultural differences in attention support the idea of more frequent use of keen attention in Indigenous communities of the Americas than in middle-class settings. The studies involve families from certain regions of México and Guatemala, where a family history of limited schooling may mean more (or more recent) family experience with traditional Indigenous practices such as learning through intent community participation. Mexican children whose families likely had experience with Indigenous practices (and whose mothers had little schooling) more frequently observed an origami demonstration without pressing for more information, compared with European- and Mexican-heritage US children whose mothers had extensive experience in Western schooling (Mejía Arauz, Rogoff, & Paradise, 2005). The children whose families likely had experience with Indigenous practices of México also focused their attention on several events simultaneously, more often than the children from the other two backgrounds, who more often focused on one event at a time in rapid alternation (Correa-Chávez, Rogoff, & Mejía Arauz, 2005). Similarly, Guatemalan Mayan toddlers and their mothers attended simultaneously to several events more often than did middle-class European-heritage toddlers and mothers, who tended to alternate attention between events (Chavajay & Rogoff, 1999; Rogoff, Mistry, Göncü, & Mosier, 1993).

These differences are consistent with the idea that children from families with experience with Indigenous practices of the Americas are more likely to keenly observe events than are middle-class children (a cultural group partially defined by extensive Western schooling). The differences also suggest that families with extensive experience with schooling may encourage children to learn in ways that resemble the learning approaches used in schools.

The previous studies compared children's patterns of attention when events were directed to them. The work on which we next focus explored children's attention when they are present but not addressed. Instead, they had the chance to observe the interactions of others. This situation is common for children included in the range of their community's events — they are present but may not be directly involved when others are carrying out their work or social activities. Children with more experience of being included in a range of family and community activities, such as in communities with Indigenous-heritage practices, may be more attentive when they are not addressed than children whose families have extensive experience with contrasting practices typical of Western schools and related institutions.

Cultural Differences in Learning When Someone Else Is Addressed

All children learn from interactions that are not addressed directly to them. For example, they learn some aspects of language by overhearing others speak, and they learn to emulate violence by watching television shows that are not designed for them. However, learning from interactions that are not directed to children may be especially prevalent in communities that integrate children in a wide range of family and community events, as has been common in Indigenous-heritage communities of the Americas.

Here we present evidence from two studies that found especially keen attention and enhanced learning among children whose families had experience with Indigenous practices, when they were present at an interaction that was directed to someone else. Children from families with extensive schooling experience were less attentive and learned less.

In both studies, a research assistant showed one child how to make an interesting toy, while their sibling sat waiting at another table. The nonaddressed sibling sat near but not facing the research assistant and the child making the toy (a foam mouse that runs). (See Figure 1.)

The nonaddressed sibling was shown a different toy (an origami jumping frog) which he or she would make soon; he or she was invited to play with a distracter toy while waiting. This way, the nonaddressed child was present and could watch but was not told to observe and would not anticipate needing to observe in order to know how to make the toy he or she would soon make. We videotaped the children and coded the extent to which the nonaddressed children paid attention to the nearby event while they waited.

-----Insert Figure 1 here -----

About a week later, we also examined the children's learning from the instruction addressed to their siblings by unexpectedly inviting them to construct the toy that they previously had the opportunity to observe being constructed. When the children returned to pick up the toy they had made, the research assistant said, "Oh, it turns out we have some extra materials.

Would you like to make the toy that your [brother/sister] made last week?"

The research assistant then offered the materials and sat back, seemingly occupied with some work. We videotaped the child's efforts and coded the amount of help needed from the research assistant. The research assistant followed a script that designated specific escalating steps of help they were to provide a child when he or she could not proceed alone.

In the first study (Correa-Chávez & Rogoff, submitted for publication), we compared the attention and learning of 120 children from three cultural backgrounds: (1) Guatemalan Mayan children whose mothers had extensive experience with traditional Indigenous practices and limited exposure to middle-class Western ways; (2) Mayan children from the same town whose mothers had more familiarity with middle-class Western ways through extensive schooling and related practices; and (3) European-American middle-class children whose families had extensive familiarity with middle-class Western ways through schooling and related practices.

We found that the Mayan children of both backgrounds were more likely to sustain attention to interactions directed to their sibling than were the European-American middle-class children. The Mayan children spent most of the time watching, whereas the European-American children spent most of the time either not attending to the construction or glancing at it briefly. The differences between the Mayan children from more traditional families and the European-American children were especially pronounced; the extent of attention of Mayan children from families familiar with "Western" ways through extensive schooling and related experiences was intermediate between that of the other two background groups. When the children were given the chance to make their sibling's toy, the Mayan children from more traditional families also showed that they had often learned more — they often needed less help than the children from the other two backgrounds.

The results of the second study (Silva, Correa-Chávez, & Rogoff, submitted for publication) were similar, with children from two populations that were not living in an Indigenous community. The study examined the attention and learning of 80 children from two cultural backgrounds: (1) U.S. children from Indigenous-heritage regions of Mexico whose families were presumably more familiar with Indigenous ways and less familiar with middle-class Western ways and (2) U.S. children from the same regions of Mexico but whose families were presumably more familiar with Western ways through extensive schooling and related experience.

The U.S. Mexican-heritage children whose families likely had more experience with Indigenous practices (and whose mothers had limited experience in Western schooling) engaged in sustained attention to the interactions directed to their sibling. They did so more than did U.S. Mexican-heritage children whose mothers had extensive experience in Western schooling (and

related practices). They also learned how to construct the toy with less help from the research assistant.

These results support the idea that children whose families have experience with Indigenous Mesoamerican community practices — where children are often present and expected to learn from surrounding events — observe more keenly in situations when they are not directly addressed than do children from middle-class backgrounds, characterized by extensive schooling and related practices. The findings fit with prior work that found that even when Indigenous Mexican children were playing and removed from adult work, they continued to monitor nearby adult activity for moments when their presence would be needed (de Haan, 1999; Gaskins, 2000). Our findings also indicate that when children attend to events not addressed to them, they learn from observing.

Participation in Cultural Practices and Institutions

Children appear to develop patterns of attention related to the cultural practices of their families, communities, and the institutions in which they participate. The differences we found align with the idea that children whose families are from communities where children are present and expected to pitch in to a wide range of family and community activities more keenly observe a nearby interaction, even when there is no obvious need to do so. They appear to be more likely to learn from observing than are children from families and communities that do not have such experience and instead have extensive experience in institutions with contrasting practices of attention and learning — especially Western schooling.

Our findings indicate that involvement in the now-ubiquitous institution of schooling is a cultural experience. For those of us who have extensive schooling — almost all of the readers of this essay — it is easy to think of schooling as a “natural” feature of growing up. But mass,

extensive schooling is a feature of children's lives only in some countries and has been available only for the last century or so, anywhere.

Although we refer to schooling as a key cultural experience, extent of schooling is only one part of a constellation of associated practices that fit together. Increases in experience with Western schooling in Indigenous-heritage communities are associated with many other changing practices in these communities — such as migration to urban settings or to the United States, new occupations, greater media access, reduced family size, and less involvement of extended family in children's lives (Rogoff & Angelillo, 2002; Rogoff, Correa-Chávez, & Navichoc Cotuc, 2005).

Thus, although we have examined schooling differences, we do not regard schooling as the only “active ingredient” in community differences. We see differences in the extent of families' experience with Western school as potentially contributing, along with many associated practices, to community differences in how children go about learning. Experiences with school practices, along with many other cultural experiences, likely foster certain ways of managing attention and provide expectations of what is considered a learning opportunity. Families with extensive experience in Western schooling — and related practices — may encourage children to depend on adults to organize their attention and to expect that the primary source of learning opportunities are adult-led lessons directed to them.

Implications of Cultural Differences in Learning by Observing

Cultural research on human development provides evidence of how children's lives often vary in accordance with the practices of their communities. Cultural research also provides inspiration for changes in current practices to make them more conducive to children's learning and well-being. In this final section, we suggest some changes to improve children's learning in

schools and in the broader organization of family and community life.

We suggest that schools should shift their organization to make greater use of opportunities to learn by observing. In the usual organization of classrooms, children have little opportunity to learn by observing their classmates or teachers. Students are often discouraged from watching each other, and teachers seldom actively participate in the exercises that they are teaching. Some innovative elementary schools (such as the OC in Salt Lake City and Academia Semillas del Pueblo in Los Angeles) manage to structure classroom learning in a way that allows students to learn from observing the work of adults and of other children on meaningful projects (Rogoff et al., 2001). Enhancing children's opportunities to learn by observing others would benefit all children. Middle-class children could learn to make more use of observation, and children from Indigenous-heritage backgrounds, who may often be disadvantaged in schools where there is little chance to observe, could make use of keen observation that they may be familiar with in their families and communities.

In the US, the organization of children's out-of-school lives also provides limited opportunities to learn by observing and beginning to pitch-in to a wide range of valued activities of their families and communities. There are some exceptions that are instructive. For example, US children whose parents do not speak English often accompany their parents in bureaucratic and other complex US institutional settings, helping by serving as language brokers. Children in these immigrant families learn a great deal about the range of community work and other activities in the process, and they show impressive skill in handling them. Although children's work as language brokers may be challenging, it also gives them an opportunity to develop a range of skills and to make important contributions to their family (Dorner, Orellana, & Li-Grining, 2007).

On the basis of our research, we advocate decreasing the segregation of middle-class children from the range of mature activities of their communities, giving them greater opportunities to learn by observing and beginning to pitch-in. When industrialized nations excluded children from working in factories, about a century ago, they were working to avoid child exploitation – young children worked long hours in dangerous conditions. However, we feel that social policies and the organization of US life have gone too far in excluding children from places they can learn and from making contributions to their families and communities. Such contributions, we argue, are important not only for children's learning but also for their feeling of doing something of value as they contribute.

Of course, major structural changes in workplaces and social expectations would be needed to undo the extreme segregation that today's children often experience in middle-class settings in the US (and around the world). However, on small scales, some families manage to integrate children more fully in their work and social lives, in post-industrial nations. For example, children of lawyers and real estate agents who manage their own offices sometimes organize their workplace in ways that children can be present. Children of parents who telecommute have a chance to be present as their parents work.

Although some occupations may be more conducive to very young children's actual contributions, observing even those that have less openings for young children to participate likely allows them to learn about those occupations and about work more generally. Children can pick up far more from observing and listening in on activities than we give them credit for. Supporting this idea is the fact that one of the best predictors of children's early reading is the extent to which people around them read. If they see people reading, whether or not people read to them, they are more prepared to learn to read themselves. Relatedly, it is probably no accident

that children of academics often have a relatively easy time in school, and children of doctors seem to become doctors at a level greater than chance.

If children are excluded from the range of their family's and communities' activities, they have little chance to learn how to 'behave' or contribute, but if there is a place for them to be present and beginning to pitch in, they can learn how to blend with the community's social and work life. Allowing children to be present in a wide range of family and community activities permits them to develop an understanding of the valued work and other activities in their communities. On the basis of our research with families from communities where children have had wide opportunities to observe and pitch-in, we argue that children everywhere deserve opportunities to be present to observe and learn how to fit in and to make meaningful contributions to their families and communities.

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Suggested Readings

Rogoff, B. (2003). *The cultural nature of human development*. New York: Oxford University Press.

Rogoff, B., Moore, L., Najafi, B., Dexter, A., Correa-Chávez, M., & Solís, J. (2007). Cultural routines and practices. In J. Grusec & P. Hastings (Eds.), *The Handbook of socialization: Theory and research* (pp. 490-515). New York, NY: Guilford Press.

Figure 1. In the first session, the children shown on the right of each image are waiting for a turn to make a paper frog while their sibling makes a foam mouse that runs. The nonaddressed Mayan child, in the top image, shows the kind of sustained attention that was common among the Mayan children from relatively traditional families. The nonaddressed European-American child, in the bottom image, is not attending in a sustained way to the ongoing interaction, as was common for children of this background. (Images are of limited quality due to being taken directly from research videos. Copyright Maricela Correa-Chávez.)

