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# Children's Planning of Classroom Plays with Adult or Child Direction

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## Abstract

*This study examined the planning that occurred when children participated in classroom playcrafting with either adult or child leadership. In a first-/second-grade classroom in an innovative public school, we videotaped 11 sessions in which children volunteered to develop a play with small groups of classmates and seven sessions in which adult volunteers (parents and a grandparent) developed plays with small groups of children. The plays were crafted in one session of about an hour, and then usually performed for the class.*

*More planning took place during child- than adult-directed sessions (averaging 92 vs. 35 percent of the session's duration). The groups led by children were more frequently involved in planning of themes, planning of details of the themes, and especially in improvisationally mindstorming ideas than were the groups led by adults. In adult-directed sessions, the adults often planned the play before the children joined the activity, and the children spent most of the session in non-playplanning activities such as gluing and coloring puppets or rehearsal of lines designed by the adult in advance. We argue that opportunities to observe and participate in planning—which occurred more frequently in child-directed than adult-directed sessions—are important to the development of planning skills and of co-ordination of plans with others.*

*Keywords:* planning; adult-child interaction; peer interaction

## Introduction

This study investigated the amounts and types of planning in which children engaged when children vs. adults led groups in planning sociodramatic plays in a first-/second-grade classroom. The central question is whether child direction or adult direction provided greater or different opportunities for children to participate in planning the procedures for playcrafting, the themes of the play and details of the themes, and improvisation of ideas for future performance.

Children's learning from planning and creating plays has been noted in several settings (Broström, 1990; Rayna, Ballion, Bréauté, & Stambak, 1993). In 'The School in Rose Valley', Rotzel (1971) describes how the creation of plays with assistance by

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adults but leadership by children was a powerful source of learning in all parts of the curriculum. In the introduction to Robert Louis Stevenson's *Kidnapped*, McClard (1988) noted that Stevenson said he learned to write from inventing imaginary kingdoms and playing for hours with a model theater with his cousin.

Although Vygotsky's concept of interaction in 'the zone of proximal development' has stimulated attention to the role of adults in children's learning, Vygotsky also articulated the importance of children's creation of goals and plans in imaginary play as a locus of learning:

Action in the imaginative sphere, in an imaginary situation, the creation of voluntary intentions, and the formation of real-life plans and volitional motives—all appear in play and make it the highest level of [early] development. The child moves forward essentially through play activity (Vygotsky, 1978, pp. 102–103).

Although the creation of plays for later performance involves efforts to prepare for later, not just ongoing, interactions, such playcrafting may build on the planning that children frequently use in their ongoing play interactions. A number of researchers have noted the planning (or 'metacommunication') that is often involved in children's social pretend play, as they negotiate the themes of their play episodes (e.g., 'Pretend we're gonna have a party', Göncü, 1987, p. 114; see also Garvey & Kramer, 1989; Göncü, 1993; Sawyer, 1997).

In the present study, we examined children's planning of the themes for their plays, details of the themes, and how to organize among themselves to plan. We also examined children's 'mindstorming', as they used playful improvisation to develop characters and episodes, which then became potential characters and scenes for the later performance.

Mindstorming is similar to processes used in adult theatrical and musical improvisation (Sawyer, 1997). Further, adult versions of mindstorming are important in collaborative work:

'It is extremely difficult after a really good idea has emerged to recall exactly what was the project that gave birth to it', remarks John Cleese, the gifted comic writer and actor who has done everything from perform as a member of the Monty Python comedy troupe to produce corporate training videos. 'Certainly it is never the case that one person suddenly had a brilliant idea, which is then accepted by everyone in that original, untouched form. The really good idea is always traceable back quite a long way, often to a not very good idea which sparked off another idea that was only slightly better, which somebody else misunderstood in such a way that they then said something which was really rather interesting' (Schrage, 1990, pp. 39–40).

### **Social Planning in Situations Not Constrained by Researchers**

Our focus on children's playcrafting contributes information on child-led social planning in situations that are not constrained by researchers in laboratory settings, where most research examining children's planning with adult and child partners has occurred. When many aspects of the planning situation are held constant by researchers, research provides little opportunity to observe 'the creation of voluntary intentions' and related plans. The researchers define the nature of the problem (for example, assigning the task of planning imaginary errands with the greatest efficiency of routes). The researchers also determine the means available to solve the assigned problem (e.g., giving all groups the same starting point and the same tools for solving the problem) and the social relationships between partners (seating the partners in a standard fashion and instructing them in their responsibilities). However, in many everyday planning situations, planners change the initial definition of the problem (for example,

converting the problem to a simpler or more familiar one), obtain or create other tools to solve it, and determine the nature of their involvement (Ellis & Siegler, 1997; Gauvain, 1989; Larson & Hansen, 2005; Rogoff, Baker-Sennett, & Matusov, 1994).

Imaginary errand-planning studies in laboratory settings have found that children with an adult partner participated more in sophisticated planning and subsequently planned in advance more successfully than children with a child partner. Peer dyads planned less efficient routes, with destinations scattered around and decisions involving one item at a time rather than co-ordinating several destinations into one efficient route (Radziszewska & Rogoff, 1988, 1991). In addition, peers were less likely to share in joint decision making in skilled planning.

However, planning with peers in play can also lead to cognitive stretches that contribute to development. Three-year-olds who were planning episodes of playing store learned that co-ordination of plans is necessary for play to run smoothly (Gearhart, 1979; see also Rayna et al., 1993). The children developed more explicit and sophisticated plans over the course of repeated play episodes, addressing directly the shortcomings in their plan and its communication that had impeded joint action in earlier episodes.

## **The Present Study**

In a classroom in which parent classroom volunteers or child classmates routinely directed the development of plays, we examined the extensiveness of four kinds of planning: planning the themes of the play, planning details within themes, improvising by bouncing ideas around (mindstorming), and procedural planning to decide how to co-ordinate the planning process. We also examined the extent to which planning involved the child participants and the adult or child directors themselves, to address the question of differential opportunities for participation in planning when adults or children direct the process.

The study is thus an ethnographically based investigation of children's opportunities to plan when working in groups led by another child or by an adult. Based on laboratory research on errand planning, one might expect that adult-led groups would involve more planning and more tightly thematic planning than would child-led groups. However, given our study's shift to a context not controlled by researchers, the phenomenon could be quite different than that in the laboratory.

## **Method**

### *The Research Setting*

This study was conducted in a first-/second-grade classroom in an innovative public elementary school (in Salt Lake City) in which students, parents, and teachers share responsibility for teaching and curriculum development. The collaborative approach of the school extends throughout the day and across the curriculum, with adults and children collaborating on projects of mutual interest. Parents are required to spend three hours per week as classroom volunteers, referred to as 'co-opers'. Parents' co-oping time is spent working with small groups of students on curriculum-based projects and activities that parents design (or the teacher develops and then gives a parent to carry out).

In the era of our data collection (1990), students regularly engaged in 'kid co-oping' one afternoon per week, when a few students each week volunteered to develop

learning activities and conduct them with a small group of classmates. A common kid co-oping activity throughout the year is to lead a small group in creating a play to perform for their classmates.

The research team has had a great deal of experience in this school. BR was a parent of a child in this classroom and had spent four and a half years as a parent volunteer in other classrooms in the school and a half year in this classroom at the time of data collection. EM was a parent of a child who entered this school after the data were gathered and before the data were analyzed. The three of us had carried out several other studies of child and adult-child collaboration in this school. After these data were collected, BR and EM did further ethnographic research as well as continuing as parent volunteers for several more years, and they collaborated with teachers, parents, and children in a book about collaborative learning (Rogoff, Goodman Turkanis, & Bartlett, 2001).

### *Participants*

The class included a teacher, 26 first-/second-grade students, and each student's adult family member acting as a 'co-oper'. We videotaped playcrafting led by nine different kid co-operators in 11 playcrafting sessions (seven girls and two boys, with one of the girls and one of the boys directing two plays each) and seven adult co-operators (five mothers, one father, and one grandmother, each directing one play). Participants were all of European-American heritage from a broad range of middle-class families who elected to attend this public school as an alternative to their neighborhood schools. The adult co-operators who were observed were relative newcomers, in their first, second, or third year of co-oping. They were part of the reading/writing curriculum team of parent volunteers and the teacher; the team devised the curriculum unit on creating plays with children that we videotaped. The children who volunteered to organize a play for 'kid co-oping' were a mix of outgoing and shy children with a mix of skilled, bossy, or *laissez-faire* leadership, with mostly friendly relations with the other children (based on our prior casual knowledge of them from our own classroom volunteering).

Child participants all chose to take part in the particular co-oper's playcrafting activity. Most of the children in the class participated in both the child-directed and the adult-directed playcrafting sessions, usually in several of each. The kid co-oping plays involved 23 of the 26 children in the class, with two to eight participants besides the kid co-oper participating in each playcrafting session (median size = 5 participants besides the kid co-oper). Most of these children participated in more than one of the 11 child-directed playcrafting sessions that we recorded (eight children participated in only one, seven participated in two, three participated in three, two participated in four, and three participated in five to seven). The kid co-operators themselves usually took part in playcrafting led by other kid co-operators on other occasions (only one did not; two others took part in one playcrafting session led by another child, four took part in two, and two took part in three). The adult co-oping plays involved 22 of the 26 children in the class, with 5-9 children participating in each session (median size = 7 children). Most of these children participated in more than one of the seven adult-directed playcrafting sessions that we recorded (seven children participated in one, four children participated in two, eight children participated in three, two children participated in four, and one child participated in five.) Most of the children also had participated in creating plays with kid co-operators and adult co-operators on previous occasions before our study began.

*Procedure*

Over a four-month period, 18 naturally occurring classroom playcrafting sessions were observed and videotaped. We described our study to parents, children, and the teacher as an investigation of children's creative planning of plays. The adult co-operators also received a permission form for their children's participation that stated that the study was 'designed to examine creativity and the play planning process' and a co-operator letter that explained some logistics and stated that 'The videotapes will be useful for our study of children's creative planning of plays'.

Both adult and child co-operators co-ordinated their general plan in advance with the teacher, whose role was advisory to the co-operators as well as supervisory to make sure that the activities were valuable to students. During the whole-class planning circle where plans for the morning or the afternoon were made, the co-operator (whether child or adult) announced the nature of the activity they offered and sought participants for their activity. The groups then used about 50 minutes to plan and rehearse a play or a puppet play, working in the hallway or in a spare room or in the regular classroom. The plays (with a few exceptions) were performed in front of the class by the end of that morning or afternoon session. Following each performance, audience members asked questions and provided feedback, with the teacher's guidance.

When possible, we also asked kid and adult co-operators and child participants what the play was about and how they came up with the play. However, on a number of occasions the class had to move to another activity right away, so these interviews were not systematic. We also obtained insights from the teacher, who reviewed some plays the summer after data collection; she knew only that we were interested in play planning, like the adult co-operators.

*Coding*

The coding system evolved from an earlier investigation of children's planning of a classroom play (Baker-Sennett, Matusov, & Rogoff, 1992), using systematic pattern analysis for abstracting data from multiple ethnographic case descriptions (Rogoff, Mistry, Göncü, & Mosier, 1993). To examine the amount and types of planning during adult- and child-directed playcrafting sessions, we first wrote descriptions of the discourse and activity for each of the sessions, based on the videotapes. This resulted in 18 descriptions of about 25 pages, which attempted to capture all the participants' actions and speech over the sessions—a time-consuming process, especially when several participants spoke or acted at once. Summary descriptions of 1–10 pages were then developed, retaining the details of planning events and summarizing the non-planning details of each session. Using the written description and the summary and the videotape of each session, we coded the extent of footage involved in each type of planning directed toward the development of the play.

The coding tracked the extent of footage of four types of planning: planning themes, planning details of the themes, procedural planning, and 'mindstorming' (see definitions and examples below). In addition to the duration (footage) of planning in each of the four planning types, coding indicated the point at which transitions occurred from one type of planning to another and whether the co-operator and/or the child participants were involved. Because several subgroups or individuals could be involved in different types of planning at the same time, the four types were not mutually exclusive. However, at any one time, whether one or several subgroups

were involved in a given type of planning, that type of planning was coded only once.

Within each type of planning, the coders indicated whether the planning involved contributions from the *co-oper only* (the other participants could be attending but not making public contributions to planning), from both the *co-oper and at least one other participant* (not necessarily in collaboration, but working at the same type of planning), and from *other participants only* (the co-oper could be attending but not making public contributions to the planning). Thus, coding distinguished the roles of adult or child co-oper or child participants, but not of each individual. The judgments regarding who was participating are mutually exclusive within each type of planning.

In addition to the *four types of planning* described below, we also coded non-playplanning and off-task events. *Non-playplanning* was play-related events that did not involve decisions about the play, such as reading a script provided by the adult, puppet making under the direction of the co-oper, rote rehearsals with no proposals for change, or imitating something already decided. Events unrelated to a play's development (such as trips to the bathroom or interruptions) were coded as *off-task* if longer than five seconds. Planning could occur 'in character' or out of character.

*Thematic planning* involves planning a chunk of action at the level of scenes or acts in the play. It includes characterizing the main themes or events, considering what follows or precedes what, or examining the rationale or motivation of events. Examples of thematic planning include:

In 'The Floating Swamp', two children discuss the idea of building the play around mixed-up characters, such as part-fairy and part-pirate, part-good and part-bad.

Later in 'The Floating Swamp', two themes being improvised simultaneously by different subgroups come into conflict: The 'fairy/pirates' try to use part of the classroom loft, but it is already in use by 'the mommy' of another theme, as her bedroom. The conflict is resolved as the two themes merge into a new theme—'Intruder'—in which the fairy/pirates climb into the mommy's bedroom.

In 'Family Dramas', the adult co-oper tells the group to figure out a play where 'mom and dad want you to do something and you don't want to do it'.

*Planning details of themes* involves decision making to fill out a theme that has already been established for the play such as devising characters, dialogue, or props. For example:

In 'The Floating Swamp', the boy who is playing the 'fairy' has been asking people what they wish for. From a discussion of whether a million wishes are allowed, the children argue about the number of wishes to be allowed.

As the adult co-oper in 'Family Dramas' feeds the group lines, the children make specific suggestions regarding the lines.

*Mindstorming* involves improvisational exploration of ideas unco-ordinated into themes or details, with individuals or groups casually bouncing off each others' ideas or trying ideas with little contact with other ideas. Several individuals may simultaneously improvise a new small character, dialogue, action, or detail, or this could occur in a solitary fashion with occasional questions or directions at a detailed level. Unlike Piagetian collective monologue, mindstorming has a social and productive character providing the germs of ideas, some of which are developed, considered, and incorporated in the play later. The children are at times involved with each other, and the ideas



of one may relate to the ideas of another, but there is no sustained consideration of decisions. For example:

Near the beginning of 'The Floating Swamp', the children are all trying out ideas for their characters, with some brief exchanges involving one- or two-line suggestions of costume parts or the nature of a character, but with no sustained consideration of decisions:

B wants C to give him the giant sunglasses.

C says he needs to take off his pants, but B says no.

R announces that she is the oldest sister.

P comes up and says, 'Where's me?'

C announces that he is going to wear some pants that mix some of each color.

R approaches B and he tells her she can be the mommy (no response).

B searches for the eye patch.

R asks C if she looks like a mother, and he says yes, but she says, 'I don't' and walks away.

The kid co-oper and the other children are similarly engaged.

*Procedural planning* focuses on decision making regarding procedures for co-ordinating the planning process such as how to generate ideas, establish priorities, make decisions, handle disputes, stay on track, monitor remaining time, or move to a rehearsal phase. For example:

In 'Pig Mask', the kid co-oper tells her group, 'Now raise your hand if you have an idea on how you want to do the play'.

The adult co-oper in 'Family Dramas' begins to organize the group by suggesting, 'OK, we need to get some paper and pencils and write a story. And we'll have some people write the story, and some people make the puppets. Is that OK?'

### *Reliability*

All 18 sessions were coded by a criterion coder who was fluent with the coding system and blind to the aims of the investigation. Of the sessions, 38 percent were randomly selected for coding by one of two reliability coders. Correlations between raters of the extent of footage involving non-playplanning, each type of planning, and the participants ranged from .82 to .99.

### **Results**

The casegraphs shown in Figure 1 portray the onset and duration of each planning type throughout the footage of each play (modeled on casegraphs of Baker-Sennett et al., 1992). For example, in the casegraph of 'Baby Maniac' in Figure 1b, a line that appears midway through the session indicates a move to thematic planning (from the prior non-playplanning activities in which the children were making and playing with the puppets). One of the children initiated the idea to have the play be about a baby who wakes up at midnight, climbs out of the crib, raids the refrigerator, and then turns on the radio full blast and dances. During this stretch of planning, other group members also described their ideas for the play, mindstorming, and then we see a shift to procedural planning when a child suggests that someone needs to write these ideas down.

In our statistical analyses, we employ the non-parametric Mann-Whitney U test because our data violate the normal distribution assumption of the *t*-test and because of unequal sample sizes and outliers. Because adult-directed plays varied dramatically in the amount and types of planning (see Figure 1b), the data depart from the assumptions necessary for parametric analyses. The Mann-Whitney U test (Sheskin, 1997) is a more robust analysis under these conditions.

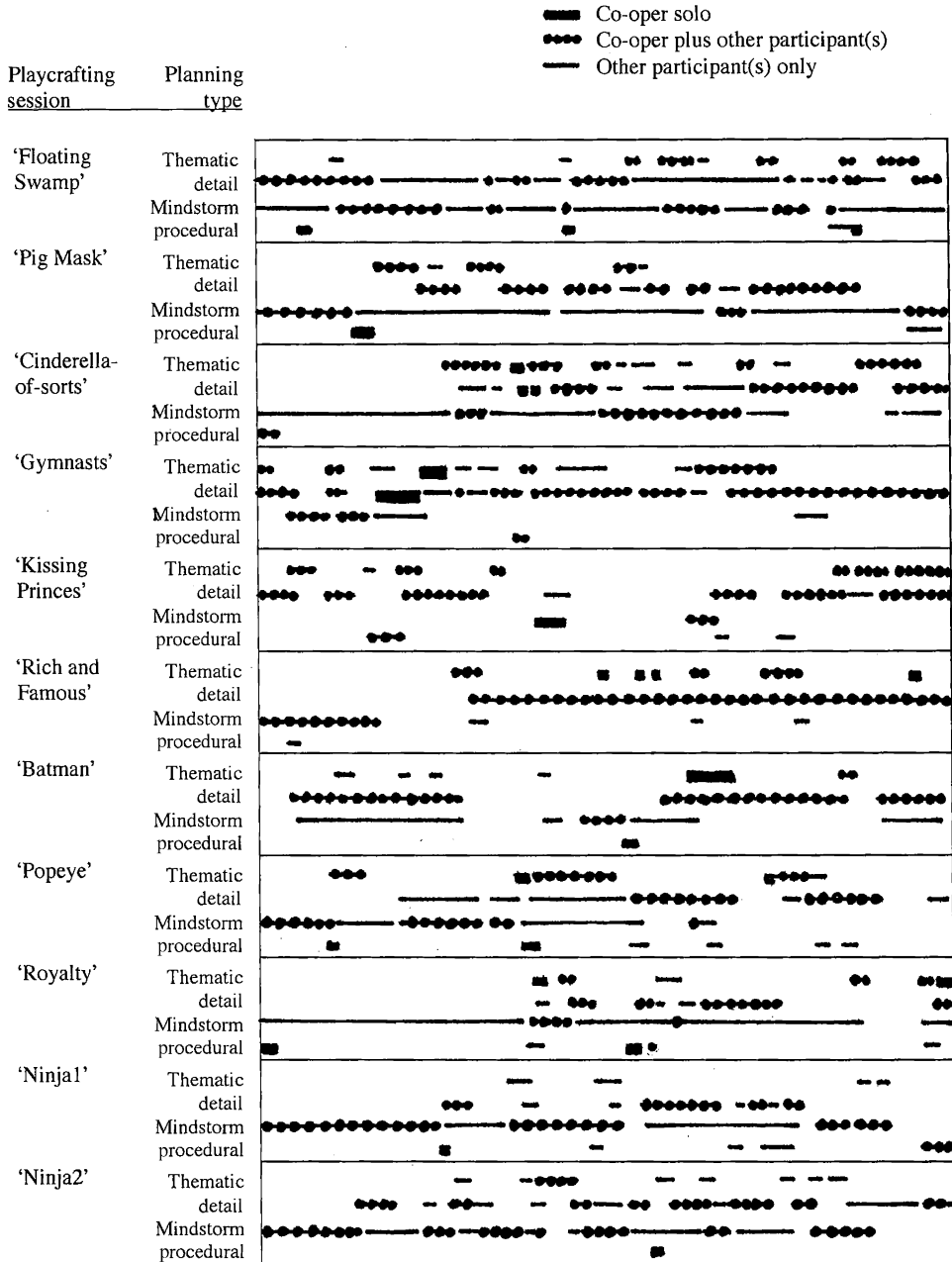


Figure 1a. Casegraphs of Each Child-directed Session. The horizontal dimension indicates 100% of the footage of each session; the sessions are on a standard scale.



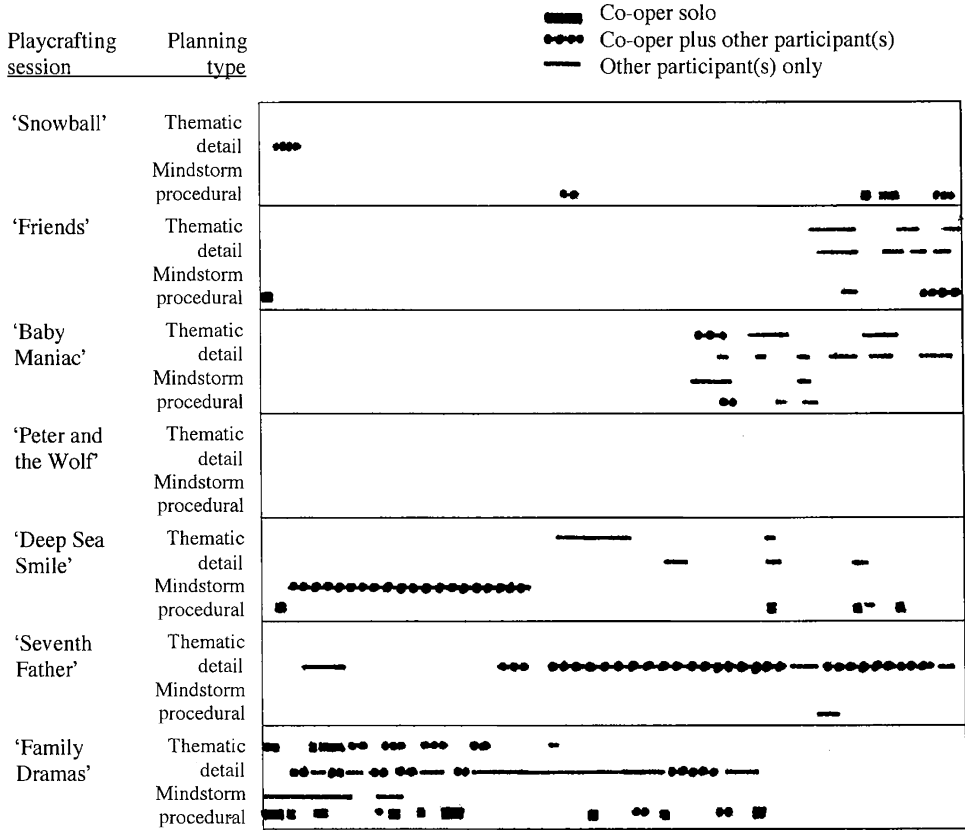


Figure 1b. Casegraphs of Each Adult Directed Session.

Overall Extent of Planning

Playcrafting sessions that were directed by a kid co-oper were far more likely to involve planning than were sessions directed by an adult. In child-directed sessions, 91.9 percent of the total video footage (standard deviation [*SD*] = 10.4) involved some form of planning by at least one person whereas in adult-directed sessions, only 34.6 percent of the footage (*SD* = 28.9) involved planning by anyone, *U* = 2.0, *p* < .001.

The adult-directed playcrafting sessions were quite variable, as can be seen in the Figure 1b casegraphs. In four of the adult-directed sessions (the top four shown in Figure 1b), less than 25 percent of the footage involved any planning; in the other three, 54–70 percent of the footage involved planning.

The adult-directed sessions that involved the *most* planning were about equal to the child-directed session with the *least* planning in proportion of footage devoted to planning: one child-directed session (‘Kissing Princes’) involved planning for 67 percent of the footage; in the remaining 10 child-directed sessions, planning occurred during 79–100 percent of the footage.

### *Non-playplanning and Off-Task*

Almost no time was spent off task in any sessions. (About two percent of the session was spent off-task by one or more of the participants in one child-directed and one adult-directed session ['Gymnasts' and 'Family Dramas'].)

However, in most of the adult-directed sessions, the children spent a great deal of time in non-playplanning activities such as rehearsing predesigned lines or making props or puppets to fit with the script planned by the adult in advance of the session. In the child-directed sessions, such non-playplanning time was uncommon. All of the non-playplanning occurred at times when no playplanning events were going on, except in two of the adult-directed sessions (comprising about 10 percent of 'Deep Sea Smile' and about 30 percent of 'Seventh Father').

In four of the seven adult-directed sessions, the script was a storybook selected in advance by the co-oper from books they had access to at home. (One was *Peter and the Wolf*; two involved little-known fairy tales; the other was a book about friends.) In the child-directed sessions a script was never determined in advance. In all child-directed sessions the scenes were developed by the participants (although some characters came from fairy tales, television shows, or movies in five of the 11 sessions.)

The planning process in adult-directed sessions was thus controlled by the adults, often out of the presence of the child participants. For example, in one adult-directed session ('Peter and the Wolf'), no planning took place during the entire playcrafting session. During the session, the children spent most of the time sanding and painting the puppet theater that the co-oper's husband had made in advance and making curtains for it out of colored paper. Then the co-oper handed each of them cut-out puppets she had created in advance along with individual scripts (copied from the book) that she had written on cards. The rest of the session was spent practicing the play according to the co-oper's script, prompts, directions, and narration.

Another adult brought in the plan for a puppet play ('Deep Sea Smile'), as well as photocopied faces for each character for the children to color and glue onto bags. She read the parts for the children to practice a few times; they sometimes slightly elaborated their character's parts. In the performance, the adult co-oper read the lines and the children acted out the parts. Occasionally, one of the child participants would say a few words, as one child reported after saying that the co-oper did almost all the talking, 'When [she would read the part about] Mama Sheep thanking the pumas, I would say, "thank you", or something like that. And then she would read that part'.

In a sense, in playcrafting sessions such as these, the children themselves were acting as puppets within the adult co-oper's plan, without having much of a chance to observe or participate in the planning process because most of it occurred when they were not present.

### *Type of Planning*

We examined each of the four planning types separately, because they could occur simultaneously, as different subgroups or individuals might carry out different types of planning at the same time. Extensive simultaneous planning of different types occurred in most of the child-directed sessions, as can be seen in the casegraphs of Figure 1a; this was rare in adult-directed sessions.

**Table 1. Percentage of Total Footage (and Standard Deviations) in Which Different Types of Planning Occurred in Child-directed and Adult-directed Sessions, and Who Engaged in the Planning**

	Co-oper solo	Both	Other participants (without co-oper)	Total
<i>Thematic planning</i>				
Child-dir. sessions	2.3% (2.4)	11.7% (8.6)	7.4% (5.6)	21.4% (7.4)
Adult-dir. sessions	1.1% (3.0)	2.3% (4.5)	4.3% (5.3)	7.7% (8.2)
<i>Planning details of themes</i>				
Child-dir. sessions	.8% (2.1)	40.7% (17.1)	15.4% (16.9)	57.0% (20.1)
Adult-dir. sessions	0% (0)	11.3% (22.5)	13.1% (18.4)	24.4% (29.8)
<i>Mindstorming</i>				
Child-dir. sessions	.4% (1.5)	22.9% (16.4)	39.4% (27.6)	62.8% (31.4)
Adult-dir. sessions	0% (0)	4.6% (12.1)	3.7% (6.2)	8.3% (12.9)
<i>Procedural planning</i>				
Child-dir. sessions	1.8% (1.9)	1.3% (1.7)	2.4% (2.5)	5.4% (3.7)
Adult-dir. sessions	4.0% (5.0)	1.9% (2.0)	1.0% (.8)	6.9% (6.2)

*Planning the Themes, Details of the Themes, and Procedures.* These types of planning are similar to the prototypical planning examined in the research literature. Planning the themes and details of the themes were more than twice as extensive in the child-directed sessions as in adult-directed sessions,  $U = 8.0$ ,  $p < .01$  and  $U = 16.0$ ,  $p < .05$ , respectively (see the right-hand column of Table 1 for means and *SDs*). Procedural planning, which was not extensive (averaging less than seven percent of the footage), did not differ in extent in child- and adult-directed sessions.

*Mindstorming: Improvisational Planning.* Mindstorming is an energetic and flexible type of improvisational planning that seldom occurred in adult-directed sessions. Mindstorming was seven times as extensive in child-directed as adult-directed sessions ( $U = 4.0$ ,  $p < .002$ ; see the right-hand column of Table 1).

Parents often remarked that child-directed sessions are so chaotic that they doubt there is benefit to the children. However, when mindstorming sessions are observed more closely, as we did in transcribing our videotaped data, mindstorming is clearly far from chaotic. The children's classroom teacher observed this upon viewing a videotape of one of the kid co-oping plays a second time. She wrote that when she first viewed this session, her reaction was that it:

was confused, noisy, and sometimes irritating. I was glad when it was over, and I was glad I was not present in the classroom [a substitute had been there that day]. . . . Then I read the written transcript, and began to understand more of what happened between the kids and began to gain a perspective. I was still confused, however, and decided to view the video again. The second viewing surprised me enormously. I enjoyed it, and I was not irritated at all.

In mindstorming, children explored ideas for characters, lines, and movement without co-ordinating them into themes, improvisationally bouncing off each other's ideas. They often started by developing characters as they tried on costumes and

experimented with props, which led them to develop germs of ideas about dialogue lines and themes of episodes as they brought their characters together in mindstorming. Eventually, as a few thematic lines were developed, the children moved between mindstorming and thematic and detail planning to reconcile differences (see Figure 1a).

The improvisational character of the child-directed plays was well captured by reflections written by the teacher upon viewing the videotape of 'Cinderella-of-sorts' a few months after the school year ended:

No one knows what they are going to be—it all depends on the costume they can put together. . . . F ends up with a hilarious old lady's costume. She tries many items before she ends up with her final product. At this point she 'becomes' her character, and wanders about the room interacting with others as an old lady and pretending on her own. She is really into it. She even talks to [the camera operator] as if she were an old lady, though he is not in costume or interacting with the kids. . . .

After the costume selection is almost done, the children start to play, acting out various incidents that come along in ways that they think that character would act. Some of these incidents become incorporated into the final performance. Most do not.

I am interested in why some are performed later and some are not. It seems that the extent to which the characters are developed in the pre-playing determines not only which characters take center stage, but also those characters which have had more practice and more fun playing together end up interacting in the same way in the final performance. . . .

R is the kid co-oper in charge. . . . She spends a lot of time locating people on the set. She talks in terms of 'what we can do' in the final performance rather than playing and getting into her character. She is a Princess, and she wears antennae, and I do see her float around sweeping her dress in a sort of ecstasy, but I see no interaction of an imaginative play nature. She comments on others' actions and tries to organize them in space (on the set) and in meaning. At one point she acts just like a teacher, using the words 4 times, 'I need (have, want) to tell you something'. I am constantly amazed that the children don't tell her to bug off, but they seem to accept her direction without any protests. At one point she even says to [another child], 'That's not the play we're going to do'. He responds, 'I know'. R is from the beginning interested in the performance. Even during the costume selection she talks in terms of the end, 'This could be . . .'

I noticed that V had imaginative play with everyone there except R. And V was the star of the play. Did the fact that she did play out an incident with each person provide a connecting thread to the play? . . .

It seems to me that when more than one person reacts in some way to an incident, then that incident can become integrated into the performance. Though . . . it seems as if a lot of playing occurs without it ending up as an episode in the performance. But the playing does help the kids define their characters so that when they are on stage, they know how to react to whatever happens.

I am reminded of regular class plays that are organized and rehearsed with adult supervision—the typical Christmas play or something of that sort. As a teacher I have learned to not get nervous before the performance. Young children cannot remember lines and cues, and rehearsals are always trying and discouraging. Then the night of the performance arrives, and I have been in the habit of fretting and worrying, knowing it cannot possibly come off. To my amazement time and again, cues are missed, lines are totally messed up, but the children improvise with skill so that it all comes off without a hitch and without the audience suspecting a thing—because I think the children are able to act out the characters they are playing. They get into it so well.

The performance has a common thread of the characters interacting as they have during the pre-playing time. Many of the incidents can be seen. R seems to be directing even on stage, putting people in places and reminding people in whispers what to do. . . . R organizes everyone . . . and reminds them of the plot [Debbly Mills, August 1990, personal communication].

*Adult and Kid Co-operators' and Other Participants' Engagement in Planning*

Kid co-operators were at least as extensively involved in thematic planning, planning details of themes, and mindstorming as were adult co-operators. Combining the columns for 'co-operator solo' and 'both co-operator and other participants' from Table 1, kid co-operators engaged in thematic planning in 14.0 percent of the footage whereas adult co-operators did so in only 3.4 percent of the footage,  $U = 12.5, p < .05$ . For planning details of the themes, kid co-operators were involved in 41.6 percent compared with the adults' 11.3 percent of the footage,  $U = 9.0, p < .01$ . For mindstorming, kid co-operators were involved in 23.4 percent compared with the adults' 4.6 percent of the footage,  $U = 8.0, p < .01$ . There was not a significant difference in the extent to which the kid and adult co-operators engaged in procedural planning, which occurred in only 3.1 vs. 5.9 percent of the footage.

Child-directed playcrafting also involved more participation in planning by the (non-co-operating) child participants than did adult-directed playcrafting. The child participants in child-directed sessions, compared with those in adult-directed sessions, were more extensively involved in the planning processes—with or without the co-operator's involvement—for thematic planning (19.1 percent of the footage vs. 6.6 percent,  $U = 12.5, p < .05$ ), planning details of themes (56.2 vs. 24.4 percent,  $U = 9.0, p < .01$ ), and mindstorming (62.4 vs. 8.3 percent,  $U = 8.0, p < .01$ ; these figures combine the columns for 'both co-operator and other participants' and 'other participants' from Table 1). There was not a marked difference in the extent to which the other participants were involved in the rarely occurring procedural planning (3.6 vs. 2.9 percent).

When the co-operator was a child, usually both the co-operator and other participants were involved in thematic planning and planning details of themes; it was infrequent for the kid co-operators to be acting solo, but sometimes the other participants planned without the kid co-operator being involved (see Table 1 and Figure 1a; an example is 'Ninja 1'). Mindstorming was extensively done by the other children without the kid co-operator, but the kid co-operator was also very involved. Planning by other participants without the kid co-operator often occurred when there was simultaneous planning by different subgroups, with the kid co-operator involved in only one subgroup. In addition, some kid co-operators cruised between subgroups to oversee the development of the play rather than taking a participant role in the development of specific ideas (especially in mindstorming).

Adult co-operators, like kid co-operators, rarely planned solo—except that in adult sessions, the rare procedural planning was most commonly done by a solo adult co-operator (see Table 1; an example is 'Family Dramas'). Unlike child-directed plays, in adult-directed plays, the child participants planned themes and details of themes without the co-operator in a fair proportion of the events—they planned themes and details without the adult at least as much as they did with the adult. Recall, though, that these types of planning were less common overall in adult-directed plays than in child-directed plays.

The overall patterns indicate that both the co-operator (whether kid or adult) and the other participants were heavily involved in most of the planning types, and this was more extensive in child-directed sessions. In child-directed sessions, both the kid co-operator and the other participants were more extensively involved in thematic planning, planning details of themes, and mindstorming than were the adult co-operators and the children who participated in adult-directed sessions.

*Opportunities to Learn to Plan from Challenges and Reflection*

The challenges that occurred seemed to provide the children with opportunities to learn about planning, and especially about the importance of articulating plans when planning in a group. Some of the children reflected critically on recent plays that they had been in, noting that not enough coherence had developed because everyone just thought up their own parts and did not bring them together.

Sometimes co-ordinating was an extreme challenge, especially if the kid co-oper was bossy or did not play a leadership role. For example, the kid co-oper in 'Ninja 1' tried to control the activity: 'Hey, you guys, I'm the master of the play. I say who's who'. During this wild session, he sometimes scolded the other children ('You're jumping around like idiots!') but offered no direction to the group. However, the other children sometimes reminded this group that they needed to rehearse or tried to encourage some order (such as when the kid co-oper was making faces and another child said, 'Okay, you guys, if we just let this run like a madhouse, like those other dinky plays where everybody's talking at the same time. . .'). Many participants became frustrated and threatened to quit. One, announcing he was quitting, complained to the kid co-oper, 'You don't have it planned out. You don't have one single thing planned out'. The kid co-oper tried to reassure him, 'We're just going to make it up on the way. . . . Don't worry. I'll make sure everyone is calm or else I'll point them out [remove them from the play, in a disciplinary action]'. When the teacher came into the room and told the group that it was cleanup time, one of the participants told her, 'We have a big problem. We don't even have a play'. Not surprisingly, the performance was pretty chaotic.

The children's frustrations in Ninja 1 prompted the following week's Ninja 2—two of the children who had been in Ninja 1 spent the intervening week thinking about what went wrong and ways to improve the planning process. Indeed, a review of casegraphs indicates that in Ninja 2, compared with Ninja 1, thematic planning increased from 10 to 21 percent of footage and detail planning increased from 32 to 57 percent. Although procedural planning decreased (from 10 to 1 percent), the percentage of footage associated with mindstorming remained constant between Ninja 1 and Ninja 2.

When interviewed for another study (unpublished) about what they learn from kid co-oping, children often reported that they learn to lead a group and to work together. Clearly, the children's play planning sessions offered such learning opportunities. In addition, the reaction of the audience and reflections of the teacher after the performance provided the children with feedback, especially about the coherence of the play. Children in the audience would complain if they had difficulty discerning a story line, or compliment the players if the play made sense. Even if the play lacked coherence as a whole, sometimes a few episodes would make sense and the audience would comment on how that part was funny or interesting. Later playcrafting groups sometimes referred back to the success or to audience reactions of their classmates' prior plays.

*Preparing Plays, Not Just Playing*

The children's concern for rehearsing and for being prepared to perform at a later time distinguish playcrafting from simply playing, which often involves planning ongoing interactions but not in preparation for later performance. When we asked some of the children about the difference between just playing and making a play, some referred to



the need to rehearse or make up lines. One child stated, 'You're supposed to practice a play, else if you don't practice a play, you're gonna go out and do it with someone just doing this: doo-da-doo-doo (acts goofy). It's not gonna be nothing'.

In addition, during 100 percent of the child-directed playcrafting sessions (and in 71 percent of the adult-directed sessions, difference not significant), children referred explicitly to the need to prepare for the performance. For example, in 'Ninja 2', a child reacted with frustration to disorder during the attempt to rehearse. 'If we don't practice it enough, [the play] won't be good and it won't work'. Kid co-operators initiated 10 out of 27 discussions of the need to plan for the performance, and child participants initiated the remainder. Adult co-operators initiated almost all such discussions that occurred in their sessions (18 out of 20, 14 of which were by the co-operator in 'Family Dramas').

Although not extensive, procedural planning appeared in all of the child-directed plays. This supports the idea that the children were not simply playing but were explicitly engaged in planning decisions directed toward developing or enforcing procedures to facilitate play planning. Once a procedural plan was in place, the group could turn to thematic or detail planning or mindstorming.

The children's planning also had many implicit references to planning for a future performance, such as using future tense while working out the themes or details of the play. For example, in 'The Floating Swamp', the children considered creating a play with a central idea of everyone mixing up their parts. After a while, the kid co-operator told the child participants, 'You might not want to do the play where people get mixed up 'cause everyone wants to do the part that somebody already has. So we probably won't do the thing where people get mixed up'.

Further evidence that the children were planning and performing plays, not just involved in play, is available in the relation between the playcrafting sessions and the performances. All 11 of the child-directed plays were performed by the whole group in front of classroom audiences.

Only four of the seven adult-directed plays were performed, and those were individual or subgroup shows; two elaborate whole-group shows that were carefully staged by the adult co-operators were never performed. (The three adult-directed plays that were not performed were one in which the adult co-operator left the classroom and the children did not seem interested in performing the show on their own, and two in which the group dissolved due to children's apparent disinterest during the planning session.)

In the kid co-opping plays, performances often began with the actors in position and in character, and often included whispered reminders of the next scenes or of planned actions (e.g., 'It's time to go to sleep'). In 10 of the 11 child-directed plays (and in all of the adult-directed plays that were performed), the primary themes that appeared in the final performance matched the themes that were developed during the planning sessions. Additionally, in most instances, elements of traditional theatrical performances (formal introductions and closures and staging considerations) appeared in most child- and adult-directed plays.

## **Discussion**

Although previous studies conducted in laboratory settings point to advantages of involvement with adults and more experienced partners during planning activities (Radziszewska & Rogoff, 1988, 1991), our results suggest that child-directed activities

may provide important opportunities for children to observe and participate in planning. During classroom playcrafting sessions, children engaged in more overall planning when the sessions were directed by a child co-oper than when they were directed by an adult co-oper. This included more planning of themes and of details of themes, and in addition, the child-directed sessions much more often involved improvisational planning in the form of mindstorming. Although co-operators (child or adult) and the other participants were usually jointly involved in the decisions, in child-directed sessions, the kid co-oper as well as the other children were more extensively involved in thematic planning, planning details of themes, and mindstorming than were the adult co-operators and the children who participated in adult-directed sessions.

#### *Opportunities to Learn to Plan and to Co-ordinate Plans in Child-directed Sessions*

The opportunities to observe and work through difficulties in co-ordinating perspectives and plans may provide important grounds for cognitive development (Gearhart, 1979; Larson & Hansen, 2005). In themes suggested by kid co-operators in the present study, children's planning was socially distributed and open for shared guidance, negotiation, and participation.

The kid co-oper was usually treated by the group as the leader responsible for initial planning and for making sure a play developed. Often the shared planning was done with excitement and good spirit and local disputes were handled with good will. In such sessions, the other children offered many planning ideas, often checking them with the kid co-oper, and they listened to the kid co-oper's efforts to co-ordinate the planning process and the plan for the play. Even so, managing the planning process was a challenge for kid co-operators (as it also was for adults).

Even (or maybe especially) if children's planning process is not sufficient to produce a tightly organized play, glitches provide important learning opportunities if the children reflect on what went wrong. The children's reflections were sometimes prompted by the teacher or by parent volunteers, sometimes by the confused reactions of classmates to their play, and sometimes by the children involved as they realized that their plan was insufficiently specified.

The extensive opportunities of children in this elementary school to plan plays and other child-directed projects may contribute to graduates' reputation for leadership. The children we observed were near the beginning of this process, in their first or second year of doing kid co-opping plays. More co-ordinated planning appeared when second and third graders created a play (Baker-Sennett et al., 1992). When graduates reach junior high and high school, teachers and parents report (unpublished data) that the children often fill important roles in organizing the work of the small groups during classroom and extracurricular activities.

#### *Improvisation in Child-directed Playcrafting Sessions*

An aspect of the child-directed plays that stands out, in addition to the overall greater frequency of thematic planning and planning details of themes, is their extensive improvisational planning in the form of mindstorming. The children often bounced ideas off each other in an open and fluid fashion as they developed themes, lines, and characters. This frequently occurred as the children began to play out their characters, putting them in contact with each other and seeing if something productive developed. The expectation for collaborative, emergent planning was stated by the kid co-oper for

the play that became 'Royalty and the Dragon': when asked by an adult what the play would be about, he responded, 'We are going to make it up', with a look of puzzlement that anyone would even ask this in advance.

The flexible planning that was common in child-directed sessions resembles Hayes-Roth and Hayes-Roth's (1979) opportunistic planning model, in which actions are only sketched in advance and revised to fit changing circumstances. Other authors stress the importance of flexible planning to determine when it is fruitful to plan ahead and when it is important to plan opportunistically, with plans developing in the context of action rather than predetermined (Gardner & Rogoff, 1990; Larson & Hansen, 2005; Rogoff, Gauvain, & Gardner, 1987; Rogoff et al., 1994). The emergent processes of creativity in collaboration as adults improvise plays (Sawyer, 1999) bear a clear resemblance to the children's development of characters and themes in mindstorming. Similarly, the importance of collaborative improvisation was noted in a study of collaborative writing by a group of teenagers, in which 'noisy talk got things done' (Tannock, 1998, p. 241).

#### *Prior Planning, Away from the Children, in Adult-directed Sessions*

In the adult-directed sessions, there was little improvisational mindstorming; the adult co-operators attempted to use advance planning in their play preparations. Researchers have often judged planning to be sophisticated when it is done in advance of action, with plans determined before implementation. However, the adults' efforts to plan in advance often went to the extreme of planning in advance of the children's involvement (despite our slightly greater communication with the adults, in permission letters and logistics letters, that we were interested in seeing children's creative planning of plays). Planning the plays in advance of working with the children may have been a strategy for maintaining 'control' of the activity by not having to make decisions together with the children. By having children carry out preexisting plans, adults may have expected to be able to plan more organized and coherent performances than the children would on their own.

This carried the consequence that the children had little access to observe or participate in the planning process itself, whether by mindstorming or by planning themes or details of themes, all of which were common in playcrafting led by children. In adult-directed playcrafting, children engaged in little planning and adults seldom planned together with the children. (Nor did they enter into acting with the children. In contrast with the kid co-operators, who were actors as well as directors, the adults never took a role in the play beyond that of narrator.)

The adult role focused on transmitting their ready-made plans to the children. 'Control' of the activities was sometimes an issue, as in some child-directed sessions. Indeed, in the adult-directed session that involved the most planning ('Family Dramas', Figure 1b), a good deal of the procedural planning involved the adult co-operator struggling to get the children to elaborate his plan for a play about family relationships. When children tried to provide their own unique twists to this co-operator's plot line ('How about an animal family?' 'What about a stinky family?'), the co-operator denied their requests because they departed from the co-operator's preexisting plan for a play about ordinary human families.

Having a prior plan may also have been an attempt to incorporate reading and writing curricular goals in the session. The adults' ready-made scripts based on books did incorporate this literate tool. However, there was little involvement of the children in reading or writing in the adult-directed sessions; extensive time was devoted to

'glitter-and-glue' activities to make the puppets and props, which did not involve reading or writing (or planning).

Concern for 'control' of the children may stem from these adults' inexperience—all but one of them had few years of co-oping experience. In another study at this school, experienced co-ops stated that one of the challenges in learning to co-op was to be flexible and to work with the children's ideas, a process that they claimed took them several years (Rogoff, Matusov, & White, 1996). Newcomers in the first years of co-oping were less likely to collaborate with the children than were more experienced co-ops, who often shared decision making with the children (Matusov & Rogoff, 2002). For many parents, whose traditional schooling emphasized control by adults and transmission of information, sharing decision making with children and collaborative guidance seemed to involve a paradigm shift in their thinking about the processes of learning and teaching (Rogoff, 1994).

The contrasting approaches of these inexperienced adult co-ops and the classroom teacher are instructive. She noted (in her account quoted in the results section) that she had developed past the point of worrying too much about control of the play. In observations of this teacher planning a play over several sessions with a small group, the children were quite involved in the planning process. The teacher helped them brainstorm ideas, using a 'web' to diagram the children's ideas of problems that could stimulate a storyline. After the children (and the teacher) created puppets for their own characters and wrote written versions of the problems contained in the story, the teacher brought the group back together to the web of ideas they had created. She provided organization to the process of planning themes along with time and encouragement (and her own involvement) in the kind of mindstorming that the children used in developing kid co-oping plays.

In a second-/third-grade classroom in the same school, another teacher also provided structure to the planning process as well as opportunities for the children to make decisions in planning a play (Baker-Sennett et al., 1992). The teacher asked the children to discuss and write down their plot, setting, characters, and necessary props/costumes. She provided intermittent assistance over the month-long sessions as the children determined main themes, events, and how to distribute roles and mindstormed and improvisationally modified actions, dialogue, and scenes.

The issue of learning to trust and guide children's involvement, rather than simply to control their behavior or to engineer the product, arises in teachers' as well as parents' learning (Patt & Göncü, 2001; Seaman, 2001). With comfort sharing responsibility with children—rather than 'controlling' their behavior or the product—adults may guide the children's planning while still supporting the improvisational mindstorming and planning of themes and their details that we observed in the sessions directed by kid co-ops (see also Larson, Walker, & Pearce, 2005).

### *The Importance of Observing and Participating for Learning to Plan*

Children's opportunity to participate in planning and to observe the outcome of their efforts may be limited in the lives of middle-class children in industrialized nations, where their activities are organized by adults in schools. One of the difficulties with schooling, noted since at least the time of Dewey, is that children have limited opportunities to observe or engage in activities with purposes that connect with the adult world, and sometimes schoolwork is limited to carrying out adult directives (Minick, 1993; Morelli, Rogoff, & Angelillo, 2003). In contrast, in many communities in which

schooling is not prevalent, children join in the work and social life of the community from an early age, learning through involvement in productive activities where they are able to see the results of their and others' efforts (Lave & Wenger, 1991; Rogoff, 2003; Rogoff et al., 1993). Such involvement provides children the opportunities to be part of planning along with their elders.

In addition, in many communities, children have the freedom to develop activities among themselves without adult supervision. Groups of children may share responsibilities for contributing to the work of the family, with opportunities to plan how the work is to be accomplished (Martini, 1994; Nsamenang, 1992; Watson-Gegeo & Gegeo, 1989; Whiting & Whiting, 1975). The adult-planned lives of many middle-class US children may limit opportunities to develop skills in planning through involvement in activities of their own invention or in collaboration with others (Gauvain, 1999; Heath, 1998; Lareau, 2003). Even in adolescence, middle-class young people have restricted opportunities to plan. Adolescent peer activities with responsibility to the community were common in some preindustrial societies. Teenagers would organize their own and village activities rather than simply engaging with 'youth' commodities—such as music, videos, video games, and sports—produced by adults for teenage markets (Schlegel & Barry, 1991).

Similarly, our study points to the potential for providing opportunities for children to learn to plan by observing and participating in peer planning efforts and their consequences. Such opportunities contrast with limitations if adults take on the planning functions themselves rather than sharing decision making with children. The study also draws attention to the prevalence and potential role of improvisational planning in these children's creative planning of plays—a form of planning in which adults who were relatively new to working with children in the classroom seldom engaged. The children's greater involvement in improvisational planning in sessions directed by other children was accompanied by greater involvement in planning the themes and details of the plays; in addition, their reflections on the success of their plays may contribute to learning about planning.

## References

- Baker-Sennett, J., Matusov, E., & Rogoff, B. (1992). Sociocultural processes of creative planning in children's playcrafting. In P. Light, & G. Butterworth (Eds.), *Context and cognition: Ways of learning and knowing* (pp. 93–114). Hertfordshire: Harvester-Wheatsheaf.
- Broström, S. (1990, May). *Drama-games with 6 year old children*. Paper presented at the International Congress of Activity Theory, Lahti, Finland.
- Ellis, S., & Siegler, R. S. (1997). Planning as a strategy choice, or why don't children plan when they should? In S. L. Friedman, & E. K. Scholnick (Eds.), *The developmental psychology of planning: Why, how, and when do we plan?* (pp. 183–208). Mahwah, NJ: Erlbaum.
- Gardner, W., & Rogoff, B. (1990). Children's deliberateness of planning according to task circumstances. *Developmental Psychology*, 26, 480–487.
- Garvey, C., & Kramer, T. L. (1989). The language of social pretend play. *Developmental Review*, 9, 364–382.
- Gauvain, M. (1989). Children's planning in social contexts: An observational study of kindergarteners' planning in the classroom. In L. T. Winegar (Ed.), *Social interaction and the development of children's understanding* (pp. 95–117). Norwood, NJ: Ablex.
- Gauvain, M. (1999). Everyday opportunities for the development of planning skills: Sociocultural and family influences. In A. Göncü (Ed.), *Children's engagement in the world: Sociocultural perspectives* (pp. 173–201). Cambridge: Cambridge University Press.
- Gearhart, M. (1979, March). *Social planning: Role play in a novel situation*. Paper presented at the meetings of the Society for Research in Child Development, San Francisco, UCA.



- Göncü, A. (1987). Toward an interactional model of developmental changes in social pretend play. In L. Katz (Ed.), *Current topics in early childhood education* (pp. 108–125). Norwood, NJ: Ablex.
- Göncü, A. (1993). Development of intersubjectivity in social pretend play. *Human Development*, 36, 185–198.
- Hayes-Roth, B., & Hayes-Roth, F. (1979). A cognitive model of planning. *Cognitive Science*, 3, 275–310.
- Heath, S. B. (1998). Working through language. In S. M. Hoyle, & C. Temple Adger (Eds.), *Kids talk: Strategic language use in later childhood* (pp. 217–240). Oxford: Oxford University Press.
- Lareau, A. (2003). *Unequal childhoods: Class, race, and family life*. Berkeley, CA: University of California Press.
- Larson, R., & Hansen, D. (2005). The development of strategic thinking: Learning to impact human systems in a youth activism program. *Human Development*, 48, 327–349.
- Larson, R., Walker, K., & Pearce, N. (2005). A comparison of youth-driven and adult-driven youth programs: Balancing inputs from youth and adults. *Journal of Community Psychology*, 33, 57–74.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Martini, M. (1994). Peer interactions in Polynesia: A view from the Marquesas. In J. L. Roopnarine, J. E. Johnson, & F. H. Hooper (Eds.), *Children's play in diverse cultures* (pp. 73–101). Albany, NY: SUNY Press.
- Matusov, E., & Rogoff, B. (2002). Newcomers and oldtimers: Educational philosophies-in-action of parent volunteers in a community of learners school. *Anthropology & Education Quarterly*, 33, 415–440.
- McClard, M. B. (1988). *Introduction to R. L. Stevenson, Kidnapped*. Chicago, IL: Calico Book.
- Minick, N. (1993). Teacher's directives: The social construction of 'literal meanings' and 'real worlds' in classroom discourse. In S. Chaiklin, & J. Lave (Eds.), *Understanding practice: Perspectives on activity and context* (pp. 343–374). New York: Cambridge University Press.
- Morelli, G., Rogoff, B., & Angelillo, C. (2003). Cultural variation in young children's access to work or involvement in specialized child-focused activities. *International Journal of Behavioral Development*, 27, 264–274.
- Nsamenang, A. B. (1992). *Human development in cultural context: A third-world perspective*. Newbury Park, CA: Sage.
- Patt, M. B., & Göncü, A. (2001). Talking the talk: Constructivist teachers guiding children's problem solving. In A. Göncü, & E. L. Klein (Eds.), *Children in play, story, and school* (pp. 309–332). New York: Guilford.
- Radziszewska, B., & Rogoff, B. (1988). Influence of adult and peer collaborators on children's planning skills. *Developmental Psychology*, 24, 840–848.
- Radziszewska, B., & Rogoff, B. (1991). Children's guided participation in planning imaginary errands with skilled adult or peer partners. *Developmental Psychology*, 27, 381–389.
- Rayna, S., Ballion, M., Bréauté, M., & Stambak, M. (1993). Psychosocial knowledge as reflected in puppet shows improvised by pairs of children. In M. Stambak, & H. Sinclair (Eds.), *Pretend play among 3-year-olds* (pp. 79–113). Hillsdale, NJ: Erlbaum.
- Rogoff, B. (1994). Developing understanding of the idea of communities of learners. *Mind, Culture, and Activity*, 1, 209–229.
- Rogoff, B. (2003). *The cultural nature of human development*. New York: Oxford University Press.
- Rogoff, B., Baker-Sennett, J., & Matusov, E. (1994). Considering the concept of planning. In M. M. Haith, J. B. Benson, R. J. Roberts, Jr., & B. F. Pennington (Eds.), *The development of future-oriented processes* (pp. 353–373). Chicago, IL: University of Chicago Press.
- Rogoff, B., Gauvain, M., & Gardner, W. (1987). The development of children's skills in adjusting plans to circumstances. In S. L. Friedman, E. K. Scholnick, & R. R. Cocking (Eds.), *Blueprints for thinking: The role of planning in cognitive development* (pp. 303–320). Cambridge: Cambridge University Press.
- Rogoff, B., Goodman Turkkanis, C., & Bartlett, L. (2001). *Learning together: Children and adults in a school community*. New York: Oxford University Press.



- Rogoff, B., Matusov, E., & White, C. (1996). Models of teaching and learning: Participation in a community of learners. In D. Olson, & N. Torrance (Eds.), *Handbook of education and human development: New models of learning, teaching, and schooling*. London: Basil Blackwell.
- Rogoff, B., Mistry, J. J., Göncü, A., & Mosier, C. (1993). Guided participation in cultural activity by toddlers and caregivers. *Monographs of the Society for Research in Child Development*, 58 (7, Serial No. 236).
- Rotzel, G. (1971). *The school in Rose Valley: A parent venture in education*. Baltimore, MD: Johns Hopkins Press.
- Sawyer, R. K. (1997). *Pretend play as improvisation*. Mahwah, NJ: Erlbaum.
- Sawyer, R. K. (1999). The emergence of creativity. *Philosophical Psychology*, 12, 447–469.
- Schlegel, A., & Barry, H., III. (1991). *Adolescence: An anthropological inquiry*. New York: Free Press.
- Schrage, M. (1990). *Shared minds*. New York: Random House.
- Seaman, J. (2001). A new teacher learning to share responsibility with children. In B. Rogoff, C. Goodman Turkanis, & L. Bartlett (Eds.), *Learning together: Children and adults in a school community* (pp. 138–141). New York: Oxford University Press.
- Sheskin, D. (1997). *Handbook of parametric and nonparametric statistical procedures*. Boston, MA: CRC Press.
- Tannock, S. (1998). Noisy talk: Conversation and collaboration in a youth writing group. In S. M. Hoyle, & C. Temple Adger (Eds.), *Kids talk: Strategic language use in later childhood* (pp. 241–265). Oxford: Oxford University Press.
- Vygotsky, L. S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.
- Watson-Gegeo, K. A., & Gegeo, D. W. (1989). The role of sibling interaction in child socialization. In P. G. Zukow (Ed.), *Sibling interaction across cultures: Theoretical and methodological issues* (pp. 54–76). New York: Springer-Verlag.
- Whiting, B. B., & Whiting, J. W. M. (1975). *Children of six cultures: A psycho-cultural analysis*. Cambridge, MA: Harvard University Press.

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## **Note**

1. All three authors were at the University of Utah during initial phases of this research.