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Chapter 6

Sociocultural processes of creative planning in children's playcrafting

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> LESLIE: [*complaining about making too many changes in the play*] If we make up the whole thing over again it will be too hard.
> CAROL: No it won't.
> ROBIN: No it won't.
> LESLIE: We can't do it all right now.
> ROBIN: Yes we can. We almost already have. When we think of the parts, we think of the play!
> KIM: Yeah!
> CAROL: Yeah!
> KIM: We just think of who the people are and . . .
> ROBIN: . . . and what they're going to do . . . And then we can organize it.
>
> (*Snow White, Session 3*)

This chapter explores the sociocultural processes of creative planning through an examination of the process of children's collaborative creation of a play. We argue that creative planning processes are grounded in practical considerations of sociocultural activity, in a wedding of imagination and pragmatics. Original, workable ideas evolve from a process that is the synthesis of spontaneous improvisation and organized, directed activity, as individuals participate with others in sociocultural activities. We examine how a collaborative interactional system develops in the process of planning, and how this social organization is essential to the planning process, as a group of young children plan a play. We follow the germs of the children's ideas as they are offered, critiqued and elaborated by each other, and consider the role of classroom structure, teacher support, and fairy-tale scripts as cultural aspects of the event.

Our purpose is to develop the argument that creative planning involves flexible use of circumstances in the pursuit of goals. We work from a contextual perspective in which individual cognitive and social activity is seen as constituting and constituted by sociocultural processes. That is, the development of original and workable ideas can better be understood when we consider the social, cultural and institutional contexts in which creative planning takes place. We make the case that creative planning involves an active, dynamic social process that involves both advance planning and on-line improvisation. In order to follow the creative planning process we must trace the development of the social and cultural conditions in which creative planning occurs.

Creating as a social cognitive activity

Traditionally, researchers have considered both planning and creating as *individual* endeavours. This assumption can be attributed, in part, to the methodologies that have been employed. Researchers have typically examined children's ability to arrive at problem solutions under contrived circumstances, working on a task alone, under the direction of an adult experimenter in controlled conditions. But firm experimental control and focus on solitary thinking is ill-suited for an investigation of children's flexible and spontaneous problem solving. In everyday activities taking place outside of the laboratory context, creative planning is often a flexible, collaborative venture (Vygotsky, 1978; John-Steiner, 1985; Csikszentmihalyi, 1988; Rogoff, 1990).

Planning typically occurs in elaborate sociocultural systems that may be invisible under isolated laboratory conditions. Although recent research suggests that collaborative processes may facilitate planning and creating (Bouchard, 1971; Weisberg, 1986; Azmitia, 1988; Radziszewska and Rogoff, 1988, 1991), there is limited information on how children plan under their own direction, outside the laboratory context (although Tudge and Rogoff [in preparation] are studying collaborative spatial planning in video games). Likewise, there is little work that focuses on how personal, interpersonal and cultural processes together contribute to the development of creative plans (but see John-Steiner, 1985, for a sociocultural account of creativity in renowned thinkers and artists; and Rogoff, Lacasa, Baker-Sennett and Goldsmith [in preparation] for a study of how the planning of Girl Scout cookie sales and delivery involves sociocultural, interpersonal and individual processes). The present study focuses on how the interpersonal and cultural processes of an activity constitute and are constituted by planning processes when children engage in a collaborative long-term project with a fluid product.

Our use of the word 'social' relates to the sociocultural contexts in which cognitive processes such as creative planning are embedded and to the process of the emergence of relations between children that are essential to group creative planning. When planning a play, children need to develop the play itself and to develop a means of co-ordinating with each other to design the play. Their planning of the play is inherently embedded in their planning of how they as a group are going to plan the play; their interpersonal processes are organized towards the goal (among other goals) of producing an entertaining play. This is consistent with Gearhart's findings (1979) that 3 year olds planning pretend shopping trips learned to adjust their planning process to take each other's plans into account, rather than simply expecting other children to serve as pliable tools for the execution of their own plans.

A sociocultural approach focuses us on the *process* (rather than the products) of creative planning and brings to attention the importance of flexibility in creative planning. Planning is inherently a creative process that involves foresight as well as improvisation in the face of changing circumstances and anticipation to be able to take advantage of unpredictable events. Although research on skilled planning emphasizes the development of planning in advance (Brown and DeLoache, 1978; Wellman, Fabricius and Sophian, 1985), successful planning involves flexibly and opportunistically altering plans in process (Pea and Hawkins, 1987; Gardner and Rogoff, 1990). Since we cannot anticipate all aspects of our planning endeavours, it is often both advantageous and efficient to plan opportunistically, developing and adjusting plans during the course of action (Hayes-Roth, 1985; Rogoff, Gauvain and Gardner, 1987). The necessity of flexibility in planning is made much more apparent when research examines the sociocultural context of planning, in which co-ordination with others, cultural tools, institutional constraints and opportunities, and unforeseen events are the objects of study rather than being seen as 'noise' to be controlled, as has been the case in most research on planning to date.

An investigation of children's playcrafting

Our discussion is based on videotaped observations of children's collaboration in developing a play. The group involves six 7- to 9-year-old girls who planned and performed their own take-off on a fairy-tale in their 2nd/3rd grade classroom during ten planning sessions extending over one month.

This study departs from most previous studies in following the creative planning process from start to finish, in studying group collaborative processes rather than individual or dyadic problem solving, and in examining problem solving in an open-ended project rather than a problem that involves a pre-existing script or algorithm for solution. Our goal was to examine the playcrafting process in as natural a situation as possible, to tape the playcrafting process as it unfolds in a setting that was not of our design.

Playcrafting sessions, rather than individual subjects, are our unit of analysis. We followed the group's ideas as they developed across time, with individual contributions woven together. We are not attempting to separate out individual contributions to examine the characteristics of individuals as independent units, although we do, of course, attend to how each child's contributions are woven together in the whole effort. Our focus on the development of the event is consistent with a contextual event approach (Rogoff, 1982; Rogoff and Gauvain, 1986) and with the method of activity theory (Leont'ev, 1981).

Our analysis concentrates on one play, *Snow White*, that was produced as part of the writing curriculum in a 2nd/3rd grade classroom in an 'open' non-traditional school where creative activities such as playcrafting are common and children are routinely expected to collaborate on classroom projects and to organize their own activities. Interpersonal problem solving and management of one's own learning activities are an explicit part of the curriculum. The classroom teacher serves as a resource and guide in a 'community of learners'. Thus, the cultural context of the children in this classroom is one that includes sustained attention and creativity in child-managed collaborative projects, with comfortable use of adult assistance and guidance but not dependence on adult management.

Children were assigned by their teacher to plan and perform their own versions of a fairy-tale. (The class chose four tales to make into plays; *Snow White* was one of two in which the group attempted to create a new version of the play rather than just to enact a traditional version.) Over the course of one month each group planned and practised its play with intermittent assistance from the classroom teacher and a student teacher, and then performed its play for classmates and adult visitors.

The teacher's role in structuring the task

Preparing the planning and writing task

Before initiating the project the teacher conducted library research on fairy-tales, set up a fairy-tale reading centre in a corner of the classroom, showed students a video presentation of *Rumplestiltskin*, and 'piggy-backed' this group project with an individual fairy-tale writing assignment. The teacher explained: 'I see this as a learning experience that you will learn all sorts of skills from. You will be doing some reading and some writing. You will do planning and organizing. These are all skills that we are trying to learn.'

The teacher, in conjunction with the students, structured the task by listing common elements of fairy-tales (e.g. begins 'Once upon a time', has a happy ending). This list was later copied from the blackboard to a posterboard and remained visible to the students throughout the month. The teacher also provided the groups with an important organizational tool for their planning of the plays: a coloured sheet of paper on which each group was to list the participants, the play's title, the characters, the setting and main events (including problem and solution).

Structuring the collaborative process

The teacher viewed this project not only as a cognitive task (it was clearly part of the reading and writing curriculum for teacher, students and parents alike), but also as a challenging social task. She attempted to maximize student success on the interpersonal problem-solving processes as well as the planning of the plays themselves.

Groups were formed with attention to the academic and interpersonal strengths of the individual children. After the teacher helped the students generate a list of fairy-tales and select four to produce, she asked students to select their first and second choices. During recess the teacher (assisted by a parent volunteer) grouped students according to their preferences and according to her perception of individual cognitive and social strengths and weaknesses:

PARENT: I think that would balance the group.
TEACHER: Uh huh. We haven't put anybody in here with real strong writing skills.
PARENT: Sarah's pretty good, isn't she?
TEACHER: Mmmm, she's OK, but she won't take a leadership role. Um, who . . . I'm kind of wondering is if we got Jason in there, he could be a leader.

When the students returned from recess the teacher told them which group they were in, and emphasized that their task would be socially as well as cognitively challenging. She offered suggestions for successfully working as a group and for managing inevitable social struggles:

TEACHER: You'll vote as a group and you'll say, 'OK, do we want to do it the old way or the modern way?' and everybody will have to discuss it and say the pros and the cons. When having a little group there are certain things that make it positive and certain things that make it hard. One guy has an idea and says, 'MODERN! MODERN! I want it modern.' Does that help the group?
KIDS [*in unison*]: No!
TEACHER: Or if some kids just sit there and don't say anything, does that help the group?
KIDS [*in unison*]: No!
TEACHER: OK, so you have to figure out a way to make the group work. What if I

> said, 'I have seen groups that have too many chiefs and no indians?' What do I mean? Leslie . . .
>
> LESLIE: That means that too many people are taking over the group.
>
> TEACHER: Everybody want to be the boss and nobody listens. So that might be a problem that you might have to solve with your group. Because you always need some workers and some listeners. Part of this will be figuring out how to make your group work . . . There will be some adults in the room to help but a lot of the time it will just be up to you to say 'wait a minute, we need to compromise' or 'we need to vote on it', rather than just one guy taking over.

Thus, by establishing groups that she believed would be cognitively and socially balanced and by providing students with a number of organizational strategies for planning and managing social relations, the teacher prepared the groups to embark on their project.

Once the groups began their projects, the teacher occasionally served as mediator of disputes, stepping in to ask the children how they could decide issues and encouraging their reflection on the *process* of solving interpersonal problems. At a key point in the first session of *Snow White*, she suggested that departing from the traditional tale (an idea she had earlier suggested in encouraging creative adaptations of the tales) might help the girls escape from their difficulties, which had to do with differences in recall of the traditional tale. The idea of creating an adaptation brought the girls together and formed the basis of the rest of their sessions.

From across the room the teacher observed the group to make sure that all was going well, and during some later sessions she observed and made practical suggestions. She was occasionally asked for information (on spelling and on whether minor changes are allowed in the assignment). Her role was to monitor and support the girls' efforts; the decisions on how to plan and develop the play belonged to the group. During a number of later sessions the student teacher attempted to organize the group, but his efforts were generally rejected, as the group was already organized in a way that he did not seem to detect, and his style was one of intervention rather than of observation and support. (The classroom teacher informed us that the student teacher's overzealous attempts to manage are a typical strategy used by student teachers, who feel responsible to do something, but are not yet skilled in observing and subtly assisting a group in solving its own problems.)

Method for examining the course of events

To examine how the girls' organization and ideas evolved over the course of the project, we first described the girls' discourse and actions throughout each of the sessions (ten records of twenty to eighty single-spaced pages each). Each of the authors checked and corrected the transcripts against video and audiotaped records of the sessions, usually clarifying some points but seldom disagreeing on overall interpretation of the events. Then with the use of the transcripts and videotapes, we abstracted a summary of the creative planning activities (a forty-five-page document). This summary version of the ten sessions was further abstracted to produce a chart of the events as they occurred over the ten sessions. Figure 6.1 overleaf presents the chart of the creative planning activities of the group during ten planning sessions, concentrating on transitions in the group's focus of planning. The classification system of Figure 6.1 emerged from our successive abstractions of the planning process over the ten sessions, as well as from concepts of planning derived from the literature and previous research on planning. It represents the transitions of the group from abstract levels of planning, to determining the events of the play, to detailed decisions regarding specifics of the production and practice of the actions that have been decided:

Level 1. **How to plan planning** the play and establish rules for handling disputes,
Level 2. **How to plan** the play, co-ordinate pieces, resolve competing ideas, and keep on track in planning,
Level 3. **Deciding on the main themes and events** and ensuring coherence of the events and their motivation,
Level 4. **Deciding on specifics** such as props, costumes, dialogue and action, as well as who will play what character,
Level 5. **Acting** on what has already been decided, with only local improvisation and adjustment.

The events abstracted by these five levels account for almost 100 per cent of the ten sessions in which the children prepared their play, with the exception of one brief segment noted below. In the following sections, we describe the group's use of these levels of planning as they develop the play.

The course of planning

During the ten planning sessions, activities proceeded for the most part from the general to the specific (Levels 1 and 2 to Level 5, in Figure 6.1). On the first day the group spent most of their time developing a general story framework (Levels 2 and 3), trying to arrive at consensus based on individual memories of the traditional version of *Snow White*. However, each girl had seen either one or two different versions of the tale (one produced by Disney and the other by Fairy Tale Theater). Thus, they could not arrive at a consensus by referring to *the* traditional version of the fairy-tale. Since the two versions are quite different, the task was complicated and the girls could not decide which production to adopt. With assistance from the teacher in

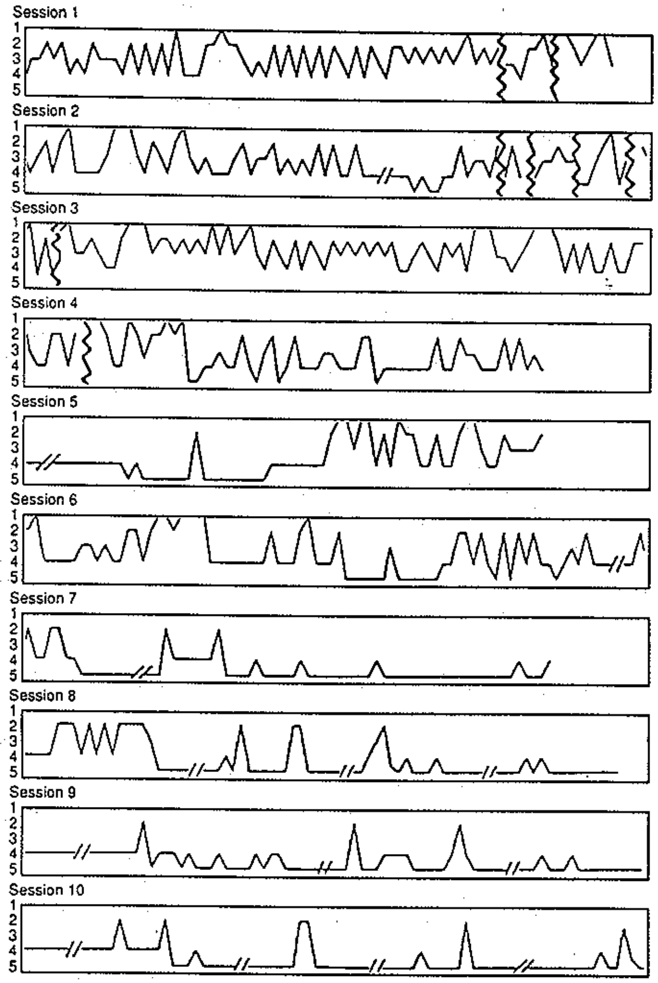

Figure 6.1 Levels of planning across sessions 1 to 10.

Key
Level 1. How to plan planning the play/establish rules for handling disputes
Level 2. How to plan the play/co-ordinate pieces/resolve different ideas/keep on track
Level 3. Deciding main themes and events/coherence and motivation of the events
Level 4. Deciding props, costumes, dialogue and action/who plays what
Level 5. Acting what has already been decided, with local improvisation and adjustment

Each point indicates a topic change, either within a level or across levels.

≀ indicates a breakdown in group planning; a dead end with high feelings
// indicates that the level continued longer than shown

attempting to resolve disputes regarding the 'real' story, at the end of the first session the girls decided to modify the traditional story model and collaboratively to develop 'twists' on the traditional story (Levels 1, 2 and 3).

During the second and third sessions, there was still a great deal of planning how to plan (Levels 1 and 2), with greater emphasis on deciding the main theme and events of the play (Level 3). In the second planning session the girls moved from the creation of a general story model to the development of a script of lines and actions (Levels 3 and 4). In the third session there was still great attention to how the play should be planned, deciding how to divide and distribute roles, and attempting to make these decisions (Levels 1 and 2).

A shift in activities took place about the fourth session, as can be seen in Figure 6.1. During the first three sessions the groups planned in advance, 'out of action', sitting around a table and discussing many ideas that would later be incorporated into their play. During the fourth session, the girls began to practise what they had planned. While practising, they improvised, planned 'in character', and practised planned events. The shift was entirely managed by the children, as were almost all the moves between levels of planning in the first sessions (the major exception being the teachers' intervention in suggesting a modification of the tale at the end of the first session).

Essential to the first four sessions was building a *social foundation* to allow the girls both to complete the cognitive aspects of their task and to work effectively as a group. Once this foundation was built, the group was able to communicate and plan 'in action' during the course of the remaining sessions, which they treated as practice sessions. From the fourth session, the girls spent a great deal of time practising – a phase that they marked by labelling it as such, as well as by changing the physical setting from working around a table to rehearsing in the hallway outside the classroom. From sessions four through ten the group spent incrementally more time rehearsing, planning in character and improvising, and less time planning out of action (see Figure 6.1).

Advance planning and planning during action

The girls engaged in flexible, opportunistic planning (Hayes-Roth and Hayes-Roth, 1979; Rogoff, Gauvain and Gardner, 1987), beginning with a greater balance of advance planning (especially Levels 1, 2 and 3) during the first four playcrafting sessions and then focusing to a greater extent on planning during action (especially Levels 3, 4 and 5). During the course of action old plans were modified, new plans developed and improvisations emerged. Planning during action is not an appendage or consequence of advance planning, but rather an integral aspect of opportunistic planning.

Advance planning involved the organization of future activity through building action sequences, co-ordinating participants, and considering material resources either before the activity started or during a pause. During the first four playcrafting sessions when the *Snow White* team planned the story theme and main events, and checked the coherence of the events and their motivation, they worked out of character and usually without action. This advance planning was necessary for the group to establish a consensus regarding the theme and events of the play as well as to develop a group working relationship that was necessary for the planning process. Although the girls often plunged into planning at a detailed level during the first four days, one or another of them soon brought the group back to the more abstract levels of planning the theme, events and motivation of the play as a whole, without which the concrete levels of planning could not be co-ordinated.

The girls each took leadership roles in managing the return of the group to advance planning at different times. On the first day, one girl repeatedly moved the group back to planning main events when the group spent too long planning props or other specifics; however, when she mentioned that she forgot to list the dwarves under 'characters', another girl took the responsibility for maintaining the more abstract planning level, as she suggested staying at a general level: 'Just say dwarves; don't give the names.' On the second day, a third girl showed a consistent pattern as peacemaker and organizer, by turning the conversation away from disputed topics to fun or simple topics, and then reorganizing at a higher level of planning soon after. Each of the other girls also provided leadership to the group in moving the work along at a general planning level, with comments on not bothering with costumes or props *yet* and on not taking too long improvising a particular scene (e.g. 'We can figure that out later'; 'This is good enough for now'; 'Pretend the scene's over, and then . . .').

Much of what occurred during the ten playcrafting sessions involved planning during action. Some of this improvisational planning was of necessity, when the group needed to cope with their plans being detailed by absences of group members, with later lack of agreement or of understanding by group members who had been absent, and with running out of time at the end of a session before a process came to conclusion. While these 'inconveniences' are carefully controlled in most laboratory planning sessions, during everyday endeavours they are the occurrences that make the creative planning process a challenge and provide opportunities for breaking to new patterns. The skill, for many, is being able to turn unplanned events into opportunities. Take, for example, Kurt Vonnegut's description of his reliance on improvisation during the writing process:

> [Writing is] like make a movie: All sorts of accidental things will happen after you've set up the cameras. So you get lucky. Something will happen at the edge of the set and perhaps you start to go with that; you get some footage of that. You come into it accidentally. You set the story in motion, and as you're watching this thing begin all these opportunities will show up. (Vonnegut in Winokur, 1990, p. 252)

Creativity in planning

The 'trick' for both experienced writers and novice playcrafters is to be able flexibly to anticipate change and adapt to unexpected occurrences throughout the course of the planning process. Plans often do not go as anticipated, and it is virtually impossible to anticipate all of the obstacles and opportunities that will arise during the course of events. Thus planning during action, involving flexibility and alertness to new opportunities and problems, provides fertile ground for creative solutions. Perkins (1981) discusses how Picasso's creation of Guernica involved 'accident and intention, the balance of luck and foresight in creative process' (p. 21). Perkins quotes Arnheim's description of the work:

> An interplay of interferences, modifications, restrictions, and compensations leads gradually to the unity and complexity of the total composition. Therefore the work of art cannot unfold straightforwardly from its seed, like an organism, but must grow in what looks like erratic leaps, forward and backward, from the whole to the part and vice versa. (p. 19)

Most of the planning during action that we observed was not in response to intruding events, but was instead the means by which the girls managed the complexities of creating a complex play and of co-ordinating their often discrepant ideas. On many occasions, the girls elaborated on the idea mentioned by another person, with the collaborative product reflecting a creative advance that is more than the sum of the individual contributions.

For example, the development of the idea of having the evil stepmother give Snow White a poisoned banana instead of a poisoned apple can be followed across a number of events and ideas from different individuals across the ten sessions. At the end of the first session, when the teacher suggested making an adaptation of the play to resolve their dispute, one girl's immediate response was to suggest using a poisoned lemon to change the original version. The girls together brainstormed other poisoned foods that could be used, among which was the poisoned banana; this was what got written on their planning sheet. In the second session, the girls discussed the adaptation written at home by one of the girls, which involved the prince punching the princess in the stomach and her throwing up all over him. Another girl suggested using chewed-up banana to create the effect, and the girls all wrote down 'banana' on their papers. When they practised the play in the later sessions, the evil queen gave the princess a poisoned banana and the princess pretended to vomit when the prince kissed (not punched) her. However, the pretend vomiting deterred all of the girls from playing the prince, a role they otherwise wanted. In the final performance, the poisoned banana remained but the vomiting had disappeared. Thus the development of several events involving the banana reflected the girls' adjustment to practical constraints, their creative use of each other's ideas to advance the group product, and the process of adjustment of the plan over time.

Another example involved the use of a fortuitous circumstance in creating a scene. During the first session, the girls considered how they could have a talking mirror, and a number of possibilities were discussed, one of which was to have a hole in a mirror with an actor speaking in the hole. All six girls participated in this discussion, which ended without resolution as one girl brought them back to the need to focus on main events. Nothing more was done with the mirror issue until the ninth session, when the evil queen went to look in a pretend mirror but was inconvenienced by the student teacher who was right where she wanted the mirror to be. She told him to move. But his being there seemed to have prompted the idea of having a person play the mirror, and she asked a classmate to come over to be the mirror and told her the mirror's line. This feature was replayed in the tenth session, and appeared in the final performance as well. In this example, the creative planning built on an intrusion to develop a creative germ that had been mentioned long before. Related processes have been observed in children's pretend play in early childhood (Göncü and Kessel, 1988).

Planning during action: in character or improvisation

We observed two types of planning during action: planning 'in character' and improvisation. Planning in character took place during activity, within the context of rehearsals or planning of script lines. It typically involved filling in gaps in dialogue or action or communicating the need for a character to appear on stage without breaking the momentum of the rehearsal. In the following example from the seventh session, the group had not yet discussed an ending for the play. Since it was inefficient to stop the rehearsal in order explicitly to plan an ending, Robin (as the wicked stepmother) took the initiative and summarized the finale, in character and without interrupting the course of action: 'Then the prince gets his wizard to turn all my mirrors black every time I look in them. So that I die if I look in them. OK?' Once this plan had been devised, during subsequent rehearsals the group was able to remember the course of events and add dialogue and action through improvisational techniques.

When improvising, the girls planned and carried out actions and events simultaneously, performing 'according to the inventive whim of the moment' (McCrohan, 1987; Dean, 1989). Improvisation differs from planning in character in terms of communicative focus. In the previous example, Robin explicitly communicated the plan to the group. However, in the following improvisational example the action and the plan were synonymous. In earlier sessions the group had decided on using a poisoned banana and that the dwarves would carry the princess over to a glass coffin. During the seventh session, the group improvised the dialogue:

CAROL: It's a banana! She's not breathing.
STACY: It looks a bit peculiar.
CAROL: She's not breathing! Come on let's carry her.
STACY: Try CPR!
CAROL: Let's carry her off.

Improvisation allows for spontaneous modifications and elaborations without the need to reflect verbally on the plan and often without the need to establish verbally mediated consensus. If an improvised line or move seemed jarring, this led to discussion either in character or out of character.

Since the group had established consensus early on about the play's overall structure and had developed shared modes of communication, during the later playcrafting sessions they could short-cut many of the formal negotiations and plan during the course of action.

Choosing advance planning and planning during action

The group evidenced struggles in managing a flexible adjustment of planning to blend the advantages of both advance planning and planning during action. On a number of occasions, the group evidenced tension between proceeding through advance planning or through planning during action. They had numerous discussions about writing the script all out versus putting the play together through acting, as in this example from the fifth session:

> Leslie asks: 'Do you want to write scripts or do you want to take the play part by part?'
>
> Heather suggests writing part of the script, then doing that part, then writing more script.
>
> Leslie urges writing a script to avoid forgetting their lines, and suggests getting out of costume to write scripts. Eventually the girls write scripts.
>
> Robin suggests: 'Why don't we all work together on one big script and then we can get it copied? So we can all work together on one script.' [*a solution to the problem of co-ordination*]
>
> The girls write, agreeing to focus on the first part of the play and just listing the names in abbreviated fashion.
>
> Leslie remains concerned with co-ordination: 'What if one person wants to say something and the other . . .?'
>
> Robin reassures: 'It will probably be all right.'
>
> They write some more, and again Leslie worries about advance planning: 'I just figured out our problem. We don't know how the story *goes*.'
>
> Robin reassures that planning in action will work: 'We are just kinda making the story up as we go – as we act.'
>
> Leslie is content: 'Oh. OK.'

At times, the student teacher intervened to encourage more advance planning, urging the group to resolve each conflict before going on. However, the girls largely ignored him. His suggestions would have been likely to lead to stalemates, with the group stuck on disputes, rather than to creative solutions.

Contrast with children's individual planning during writing

The *Snow White* group's skilled movement between advance planning and planning during action, adjusting planning across levels of detail, contrasts with the literature on children's planning of written compositions (Flower and Hayes, 1980; Hayes and Flower, 1980; Bereiter and Scardamalia, 1987). Seminal work by Bereiter and Scardamalia (1987) found that elementary school children write by simply putting down the next thing they think of, without thinking about the composition at a meta-level, planning or creating an abbreviated plan in the form of notes that differ significantly from later completed text.

The *Snow White* group used more sophisticated planning than that found by Bereiter and Scardamalia. During the first four playcrafting sessions children planned at a global rather than sequential level of detail by creating a story theme and events, examining the coherence and flow of the story. During the final seven playcrafting sessions the group modified, improvised and rehearsed their plan. At times, when hindered in making progress on the overall plan, the group would dip into planning at some level of detail, shortly to return to the more general level with greater consensus or renewed ideas.

The girls wrote abbreviated plans on paper on a number of occasions (listing the characters, sometimes with abbreviations of actors' names). For example, when one girl suggested that everyone write down their parts and what they want to say and then discuss it all together, she added, 'You don't need to really write every word.' These abbreviated plans and management of levels of planning by 2nd and 3rd graders were qualitatively more sophisticated than those produced by Bereiter and Scardamalia's sample of 6th graders who planned details in sequential order.

What might account for the discrepancies between Bereiter and Scardamalia's findings and our own results? Although the emphasis on creativity in these students' school may account for some of the discrepancy between Bereiter and Scardamalia's observations and our own, another likely explanation for our 2nd and 3rd graders' elaborate planning is that children in our investigation worked in *collaboration* to develop a plan for their project. With only one exception, Bereiter and Scardamalia's research focuses on individual as opposed to collaborative processes. In the one instance when Bereiter and Scardamalia observed a group of four 6th grade children collaborating on a written project they noted that the group engaged in sophisticated planning comparable to adult planning and consistent with our own findings. They infer that this single observation might be attributed to some features of collaboration. Similarly, Flower, Higgins and Petraglia (1990) suggest that: 'The presence of a partner forces writers to explain, elaborate, or in some cases try to articulate thoughts, doubts, fragments, assumptions and ambiguities that are often left unsaid in thinking to one's self' (p. 6). In the next section we discuss the collaborative methods that the group employed during the playcrafting sessions and examine how collaboration is integral to the planning process.

Social organization of creative planning

In our use of the playcrafting event as the unit of analysis, we consider the roles of individuals involved as they constitute and are constituted by the coherence of the overall event. It is relevant to ask how the individuals co-ordinated their efforts and their relative responsibilities for the management of planning, and the extent to which their thinking was shared.

Although the six girls differed in writing skill and leadership strength, and they varied in friendship histories, they consistently worked together throughout the sessions. Even when they attempted to work independently, each writing her own lines or developing her own characters, they consulted each other constantly on fitting their contributions together, assisting each other in spelling and reminding each other of decisions that had already been made or of the basic story model in which they were working.

Working together was not easy – early sessions were full of conflict and mismatches of assumptions and ideas. At times subgroups worked together simultaneously or several girls worked actively while others observed. There were four girls who played a more dominant role in decision making, but the other two were always attentive and all six contributed ideas and management at one point or another. (Of the two girls who were less dominant, one was the only 2nd grader in the group and the other was quieter than the other four 3rd graders. After the teacher had put this group together, she noticed that it was composed of a number of strong personalities and expressed concern about the potential for explosion in the group.)

In any case, the girls were all engaged, with shifting leadership from day to day. There were *very* few moments spent off-task, by any of the six girls. On a few occasions the group fooled about around play development, but this seemed often to serve a function of reducing tension or getting past an impasse in planning. The only occasion when the group really spent time off-task was a three to four minute period when the student teacher interrupted the group in an attempt to organize it in his own fashion.

Initial anchors for planning

To begin the process of planning, the girls faced the problem of anchoring their imaginations so that they could work from a common ground. Without such anchors, there would be little hope of co-ordinating their individual efforts. Some of the anchors drew upon constraints and resources of the cultural institution in which the children worked – school. Before the first session, the teacher provided anchors for the planning process in her management of the classroom to choose four plays as a basis of the projects and to determine with the children who was to work on which play, after lessons on the structure of fairy-tales. Her requirement to produce a written script also channelled the process.

Another means of anchoring the process, and of encouraging planning at higher levels, was the teacher's provision of the planning sheet requesting the children to determine the characters, the setting and the main events. The use of this sheet was managed in the first session by Stacy, who repeatedly directed the group back to determining characters or main events when they strayed into too much detail on planning props or dialogue, as in the following example:

> When the girls got involved in discussing how to make a talking mirror, Stacy tried to get them back to general planning. She interrupted, tapped the girl who was leading the mirror discussion with her pencil, and said 'Main Events'.
>
> But the discussion remained on the mirror topic.
>
> Stacy tried again, exasperated: 'We are going to do the Main Events.'
>
> When the others continued discussing the mirror, Stacy asked: 'What are the Main Events?'
>
> Finally the girls turned to reconstructing their memories of the main events of the tale. But after some progress, the girls began to worry about how they would produce the setting.
>
> Stacy tried to move away from this level of planning, insisting: 'We aren't doing this right now. We are on the Main Events right now.' And the girls returned to listing the main events.

At the end of the first session, the main events for *Snow White* were written as:

> the queen wats snow white
> kiled. Snow wite eats a pousand
> banana snow white gets strageld
> snow white gets bered and the
> price comes and they get meryd.

The girls also used the traditional story line of the play as an anchor for their planning during the first day, relying on cultural knowledge outside the structure provided by the teacher. However, since the girls did not share a common story line (due to having seen two different video versions of the tale), their common ground here was not solid. Intersubjectivity was repeatedly disrupted, until the girls understood the basis of the misunderstanding. Eventually they checked understandings with each other.

> In Session 2, when Heather and Robin disagreed on how the dwarves should carry their shovels, Heather checked, 'Have you seen the Walt Disney one?' before going on with a proposal; 'OK, well you know how they swing back? [*she demonstrated*] They go like that.'

Many of the girls' disputes could be traced to *apparent* consensus but with different underlying assumptions that later surfaced as problems. The problem of differing assumptions was resolved when the teacher suggested that they make up a modern version of the play, and the girls eagerly accepted this solution to their interpersonal trouble.

Hence the decision to create rather than reproduce a play resulted from interpersonal difficulties in establishing a common ground. The idea of modifying the traditional tale had been suggested before the beginning of the sessions by the teacher, and during the session by several girls. But it was not until it appeared as a solution for the difficulties in co-ordinating ideas across people that it was adopted:

> The teacher suggested: Why don't you guys think up a totally new version? A modern-day version?'
>
> The group made favourable comments, and Robin supported the idea: 'I think that it would be neat to come up with a modern-day version. Like Snow White eats a poison lemon or something.'
>
> After further discussion, Robin gave more support to the idea of a new version as a way of achieving consensus: 'We could have a whole new thing and then everybody would be figuring it out all together and then nobody would have seen it [i.e. quarrel about the "real" story].'
>
> The group began immediately to brainstorm.

For the second session, the anchor for planning was elaborated by Robin's production, at home, of a modified story line in which many events were made to be opposite to the original tale. She reported to the group that she was following their group decision: 'I just totally changed it. Remember how we were going to make a new one? So I just did that.' When she read the story to the group they were largely enthusiastic.

Although this version did not persist intact, Robin's play served as a new anchor point, both for those who accepted it and for those who argued against it. The argument derived from a girl who had been absent at the previous session and was not pleased with changes occurring in her absence: 'Well, she shouldn't have done it until all of us like it . . . It's supposed to be *Snow White*, not *Black Night*.' With the teacher's support, the group pulled together to reach a new agreement, and this resulted in a change of the name of the play, from the revised name offered by Robin:

> The teacher probed: 'What could you do to solve the problem?'
>
> Leslie suggested: 'We could change it? . . . Could we just change the name instead of *Black Night*? Would that help?'
>
> The girls discussed alternative names. After much more discussion, and attempts by the group to have each girl write individual ideas to be mixed together, Leslie offered an efficient compromise: 'If we have a little of Robin's *Black Night*, if you want to, we could have *Snow White Black Night*.' In discussion, the idea of *Blue Sky* came up, and Leslie suggested: 'How about *Blue Night*? Cuz, some of your [Robin's] idea and some of their idea?'

At this suggestion, all agreed and planning moved along collaboratively. The group's solution was to combine parts of each idea, to get a new one. This is a recipe for creative planning, and it is essential to note that interpersonal processes were central in necessitating the mixing of ideas and guiding the resulting creative elaboration.

Means of co-ordinating efforts

Over the course of the playcrafting sessions the group was able to develop effective ways to manage both the play-planning task and the social relationships.

Division of tasks

One collaborative method the group attempted involved the division of various tasks. Here, a task is divided into subtasks and individuals are assigned to perform one or more of the subtasks. Once the subtasks have been performed, individual products are integrated to form a whole. Sometimes, tasks were divided with parallel contributions from all, by distributing character roles and having each participant create her own actions, dialogue and motivations, as in the following proposal in the second session: 'Everybody get a piece of scratch paper . . . *write down their parts*, and what they want to say. Then we'll discuss them . . . and see if everybody likes it.' On some occasions, subgroups divided tasks and worked simultaneously within subgroups. For example, the three dwarves worked on their dialogue and actions, speaking across the table through the conversation of the king and queen who were developing their piece of the script.

At other times, the division involved specialization, with distribution of individual jobs (e.g. playwright, director, set designer), and later integration of the products according to a master plan. This social organizational model is common in professional theatre (see Schechner, 1985, for an anthropological discussion of theatre). One advantage of this model is that it takes into consideration variation in individual skills. For example, a child who has difficulty writing can create props. However, the group must decide who will divide the task and who will integrate individual products once they have been created. Without a clear distinction in resources or status, it is difficult to determine who should take what role. In fact, during the planning of *Snow White* a great deal of the conflict revolved around one or another of the four dominant girls protesting about too much leadership by another.

A cultural tool – writing – was often used by the girls to take control of the planning process. As in ancient times, the scribe and the literate had power over those who did not write or read. In the first session, Stacy took the job of writing down decisions on the teacher's planning sheet. She also kept the group on task by reminding them of the need to make decisions at the level of the planning sheet (e.g., main events). However, this gave her a dominant role about which other girls later protested. Leslie scolded: 'You are supposed to be writing down what we *all* want!' and later Heather asked Stacy if she could write the next part, since Stacy had written everything so far (but Stacy did not yield the pencil and paper).

In other sessions, other girls also used writing as a means of influence – Robin writing the play at home, Carol gaining authority in decision-making as the only girl who could find her script from the session before, and Leslie later being nominated to be the writer of the script (with admonitions to write the group consensus) on the basis of her more complete manner of writing. When there were difficulties in establishing group consensus, the written word was often used as an anchor point and as a way of exerting leadership. Perhaps because the group members were basically similar in resources and skills and involved four girls who vied for the leadership role, asymmetry in roles was often rejected, in favour of discussion, negotiation and compromise.

Shared decision-making

This collaborative method was used throughout the creation of *Snow White* with ideas developed through a process of brainstorming and evaluated and adapted for use. Each child has a say in the decision-making process even though individual children do not make equivalent contributions to proposals or to carrying them out. During one dispute, the girls complained that Leslie was being bossy in protesting about the inclusion of a part that was not her character's; she replied, 'it's my play, too', disputing the idea that decisions could be made unilaterally by people playing specific parts.

The process was often chaotic, filled with interruptions, topic and task changes. Likewise, the play under construction was sometimes disjointed, since the individual parts often did not comprise a coherent whole. This was complicated by the likelihood that individuals were working from differing models of the goal or differing background information.

To progress, the group must be able to work together on a shared task, with shared attention, shared communication, and the ability to adjust individual activities to facilitate the group. At times the girls proposed ways of co-ordinating their individual or subgroup ideas:

> TEACHER: Can you think of how you would like it [the play]?
> STACY: I'd like to change the form. Like make [the ideas] exactly opposite . . .
> ROBIN: Why don't we mix them up? . . . Like we can get everybody to make the ideas so everybody will have their own idea and then we can mix them up together . . . We can figure out a way to mix them all up on somebody's piece of paper.

The social–cognitive collaborative methods of division of tasks and shared decision making that the group used to create their play served as both a planning *process* that propelled the group to its goal and as a *tool* that facilitated the creation of the play, with indivisible social and cognitive processes. During the initial four playcrafting sessions sociocognitive vehicles for the co-ordination and generation of ideas were built by the group, and as they were built, the group was able to use them to create its play. On the fourth day the group was able to achieve a coherence between cognitive activities and social organization. After the fourth day it spent most of its time planning specific dialogue and action, and rehearsing.

The *Snow White* group's methods and product contrasted with many of the other groups' playcrafting sessions, which did not employ a method of shared decision making. For example, in one of the other fairy-tale groups an adult needed to remain with the group for all ten sessions in order to dictate the method of collaboration and to structure the task. The adult became responsible for generating ideas, negotiating conflict, and attempting to motivate the group's efforts. Another group elected not to collaborate on a joint project, but rather to work on individual products that were later performed separately. In these instances the groups did not develop a means of collaborative management of ideas, and their interactions and plays were of a much different nature from those of *Snow White*, in which the group developed successful interaction patterns and used them to develop a play together, working almost independently of adult direction. We argue that collaborative methods of social organization were essential to the group's handling of a variety of cognitive tasks.

Summary

In this paper we have argued that creative planning can best be understood as a sociocultural process involving both advance and improvisational planning. Whereas many traditional perspectives view creativity and planning as cognitive products, mental possessions or individual traits, our purpose has been to explicate sociocultural processes in children's collaborative creative planning. We emphasize both the process and the sociocultural nature of planning by arguing that in order to plan collaboratively children need to develop ways of managing both social relations and the cognitive problems inherent in the project. Social interaction patterns constitute the cognitive course of the creative process and, in mutual fashion, cognitive processes constitute social organizational patterns.

We stress the dynamic, sociocultural nature of the processes of creative planning. Sociocultural contexts provide fertile ground for the development of new ideas and structure creative planning as ideas emerge and evolve in new ways. Regardless of whether we investigate artistic, scientific or everyday creative planning, all take place within sociocultural communities. The individual contribution to creative planning is only a part of a broader dynamic sociocultural process, in which the whole is greater than the sum of the parts.

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