Educational Psychology Review, Vol. 15, No. 2, June 2003 (© 2003)

Research into Practice

Collaborative Reasoning: Expanding Ways for Children to Talk and Think in School

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This article presents a framework to help teachers facilitate small group discussions about stories children read. Collaborative Reasoning discussions are intended to create a forum for children to listen to one another think out loud as they learn to engage in reasoned argumentation. Children use personal experiences and evidence from the stories to support their conclusions and consider each other's points of view. Excerpts from an ongoing study of 12 fourth-grade classrooms in rural, urban, and suburban settings are used to illustrate four characteristics of Collaborative Reasoning: (1) children's response to text; (2) children's use of text to consider multiple possibilities; (3) children's use of tools for persuading others; and (4) children's control of topic and turn-taking.

KEY WORDS: classroom discussion; reading; reasoning; language development; persuasive discourse.

In the traditional recitation discussion (see Table 1), the teacher asks a question and then calls on a student to give the answer. The teacher continues calling on students until an acceptable response is uttered, or the teacher supplies one. Then the process is repeated. Cazden (2001) posits that the "three-part sequence of teacher Initiation, student Response, and teacher Evaluation (IRE) or teacher Feedback (IRF), may still be the most common classroom discourse pattern at all grade levels. It is certainly the oldest,

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1040-726X/03/0600-0181/0

Table I. Comparing Quantity and Quality of Student Response in Two Types of Discussions

Traditional recitation discussion[a]	Collaborative Reasoning discussion[b]
T: Who is the main character of this story?[c]	*T:* The big question is, "Should the coach let Ronald play?"
S: Ronald.	*S:* I don't think so, because he couldn't do anything right.
T: Yes, and what was the problem he faced in this story?	*L:* Yeah, if he was on a team he would make people lose.
S: He couldn't do anything right.	*R:* Nobody would want to pick him.
T: No, what was he trying to do?	*J:* I think he should have a chance to be on the team, because then he might have a chance to get better.
S: He was trying to play baseball.	*B:* That wouldn't be fair, because he would make everybody lose in the meantime.
T: Yes, so, our stories usually *have a problem* and a solution. Remember? We talked about that yesterday. So what was the problem in this story?	*A:* Winning isn't everything.
S: (no response)	*T:* So. What do you think? "Should the coach let Ronald play?"
T: Ok, B. Can you help S. out?	*A:* Maybe the coach could get his dad to practice with him.
B: He wanted to play, but he ran the bases backward and closed his eyes so he couldn't hit the ball.	*G:* When I first started playing baseball, I was scared I'd get hit by the ball so I wasn't very good at first, but then after a few practices I got better. I wasn't as
T: Ok, J, what else did he do wrong?	*K:* How would you feel if nobody wanted you to play and called you "four eyes" just because you wore glasses? I think they ought to let him play.
J: He drew letters in the mud with a stick?	*B:* But the rest of the team would have to suffer until he got better. Wouldn't that make him feel pretty bad? It would me!
T: Why is that a problem?	*A:* I think he deserves a chance.
B: He wasn't paying attention to what his coach was telling him?	*B:* I disagree, because no one would like him then.
T: Ok, so the problem in the story was that he couldn't do the things he was supposed to be able to do to play ball, he couldn't hit, he couldn't run, and he didn't pay attention. Is that a problem when you want to play ball?	
Class: (in unison) yeeeeesss.	
T: So the problem Ronald faced in this story was he kept making mistakes every time he tried to play ball. What happened next?	

[a]Traditional Recitation Discussion: nine teacher turns, seven student turns (three different students), one whole-class response.
[b]Collaborative Reasoning Discussion: two teacher turns, 12 student turns (eight different students).
[c] T = Teacher; B, S, J, G, K. . . = Students.

with a long and hardy life through many decades of formal Western-type schooling" (p. 30). Because of its longevity, she refers to the IRE or IRF as the "default option" or "traditional lesson" structure of classroom discourse (Cazden, 2001).

Educators are increasingly concerned that the standard method of teacher-question, student-response, and teacher-evaluation may restrict the way children talk and think in school. In the recitation format, students rarely respond to open-ended questions or have the opportunity to think critically about complex issues. When questions have only one right answer, students are not able to consider alternative points of view. Opportunities

to challenge each other's statements by presenting evidence to support a counterargument seldom occur during traditional recitation-style lessons. However, when students are permitted to participate in a form of reasoned argumentation, they may hear several voices representing contrasting perspectives on an issue. They are then able to question and reflect on their own thinking. Rogoff (1995) contends it is through this participation that intellectual development occurs. According to Kuhn (1992), "it is in argument that we are likely to find the most significant way in which higher order thinking and reasoning figure in the lives of most people" (p. 156). However, results of "nationwide assessments and research studies consistently show that the majority of young and adult Americans do not have a firm grasp of argumentative discourse" (Reznitskaya and Anderson, 2002, p. 319).

In an effort to bridge theory with practice, this article describes a method for expanding the ways children talk and think called Collaborative Reasoning (CR); it includes selected findings of studies conducted on CR. The idea behind the practice of CR is Vygotsky's notion of internalization: "The higher functions of child thought first appear in the collective life of children in the form of argumentation and only then develop into reflection for the individual children" (1981, p. 157). Collaborative Reasoning discussions are intended to create a forum for children to listen to one another think out loud. In theory, participation in discussion helps children construct or internalize a schema for an argument, which in its most basic form consists of a conclusion with at least one reason (Angell, 1964). With increased participation, arguments can become more sophisticated, containing "multiple reasons, qualifiers, counterarguments, and rebuttals" (Reznitskaya and Anderson, 2002, p. 321). The argument schema then becomes a network that connects individual arguments and represents extended stretches of argumentative discourse (Chinn and Anderson, 1998). Collaborative Reasoning offers a framework to help teachers facilitate small group discussions about stories children read. Although the goal of recitation is to promote story understanding, the goal of CR is to promote growth in students' abilities to engage in reasoned argumentation. We believe that CR creates an opportunity for children to expand their repertoire of responses to literature by learning to think in a reasoned manner to explore and argue diverse views prompted by what they read (Waggoner, Chinn, Yi, and Anderson, 1995).

We begin by outlining a framework for CR discussions, the teacher's role as a facilitator of CR, and the criteria for selecting stories and formulating central questions. Then, we illustrate four characteristics of CR by examining excerpts from children's discussions taken from an ongoing study. The excerpts were selected from both rural and urban settings. Results of previous studies highlighting the benefits of these four characteristics of CR are

woven into our discussion. Children and teachers describe their experience with CR in their own words.

THE CR FRAMEWORK

Collaborative Reasoning (Table 1) provides teachers with a framework for facilitating discussions among small groups of children. The teacher forms the groups in such a way that more talkative students are paired with quieter students. Similarly, children of different reading abilities, not usually in the same group for reading instruction, are also mixed together. Teachers report that over time, students begin to understand what is expected of them in the CR discussion format, but in the beginning they must be given adequate time to think about their responses and grow accustomed to extended participation.

Collaborative Reasoning discussions follow seven basic steps:

1. After the class reads the day's story, a small group comes together for a discussion. (The teacher reviews the rules listed below.)
2. The teacher poses a central question concerning a dilemma faced by a character in the story.
3. Students freely explain their positions on the central question.
4. They expand on their ideas, adding reasons and supporting evidence from the story and everyday experience.
5. They challenge each other's thinking and ways of reasoning.
6. At the end of the discussion, a final poll is taken to see where everyone stands.
7. Finally the teacher and students review the discussion and make suggestions on how to improve future discussions.

The Teacher's Role

As volunteers for our studies, teachers learn to facilitate the development of their students' skills in reasoned argumentation—a basic component of the democratic process commonly seen in town meetings and congressional hearings, but seldom seen in elementary school classrooms. *Open participation* is encouraged in CR discussions. Students do not raise their hands for permission to speak but gradually learn to enter the discussion as adults would a serious conversation. They learn to help each other stay on the topic and avoid interrupting each other. Students follow a few basic rules, reviewed at the beginning and end of each discussion:

- Stick to the topic.
- Do not talk when others are talking.

- Try to look at both sides of the issue.
- Make sure everyone has a chance to participate.
- Respond to the idea and not to the person.

Teachers attend a workshop to learn ways to facilitate CR discussions (see Waggoner et al., 1995). They learn to promote students' independent thinking and self-management of turn taking through strategies of modeling, prompting, clarifying, summarizing, and encouraging (see Anderson, Chinn, Waggoner, and Nguyen, 1998). They learn to challenge students' reasons, ask for clarification, or request evidence to support an idea. For example, if children fail to uncover an alternative point of view, a teacher may interject by stating, "But, what do you think about. . ." as a way of introducing a counterargument to stimulate further discussion. In CR, children repeatedly hear teachers use phrases such as *give reasons*, *provide evidence*, *form an argument*, and *make an assumption* in the context of CR discussions. They come to understand the meanings of these phrases in the context of the teacher's participation in the discussion well enough to begin using them to challenge each other's reasons as they listen to them think out loud.

A teacher may decide to intervene if a discussion goes too far astray from the topic or if the children get confused about someone's line of reasoning. The teacher may repeat the central question, summarize the points the students have made so far, or ask a student to clarify a position. Other times, a teacher may say nothing to allow children time to work through a problem themselves, even though this creates a long pause in the discussion.

On occasion, a teacher models thinking by describing her own thought processes. The teacher may challenge students or raise an alternative point of view. For example, in a discussion questioning whether zoos are good places for animals, a teacher clarifies a child's misunderstanding that others did not challenge. The teacher (T) thinks out loud as she poses an alternative point of view to challenge the group's consensus that animals should be left alone to run free:

> *T*: R, you said that you couldn't hear animal sounds on a computer. Some computer programs show videos of animals along with the sounds they make. So you don't have to have zoos to hear wild animals make sounds. But some people might say that if animals are left alone in the wild, they might become extinct, especially the ones that are on the endangered species list. I wonder if it's better to let them run free, or to make sure they don't become extinct? That's a real problem. What do you think?

A major goal of CR is to foster children's independence so they are able to carry on a discussion with little or no assistance from the teacher. As teachers refine their skills in facilitating (rather than leading) discussions, students begin to rely less on the teacher and more on each other.

They learn that they are expected to talk to each other and not to the teacher.

Over the course of several CR discussions, students gradually begin to challenge each other's ideas respectfully and with less teacher direction. They come to understand that the purpose of the discussions is not to come to a consensus (although they often attempt to create a compromise). Instead, they begin to realize they need to listen carefully to other people's reasoning to judge the strength of their arguments, on the basis of evidence from the story or on what they believe to be true from their own experiences. This process is examined more closely in the discussion of excerpts below.

Teachers have shown surprise at how easily students learn to monitor themselves in the open participation format. One teacher remarked that children were attempting to apply strategies from CR at other times:

> I think there is some carryover going on in our other class discussions. They were trying not to interrupt each other yesterday during a social studies discussion we were having. It's the first time I've seen that happen in here, and it must be because of the CR project because nothing else has changed.

Over the last 10 years, several teachers have volunteered to participate in CR research projects. A study is presently under way to determine if teachers who have been trained in facilitating CR discussions are still using them as part of their reading instruction. We want to know if and how they may have adapted CR to their classroom situations, and if they are not using CR at all, why not? We hope to determine what factors and circumstances are common across various situations that support the continued use of CR in classrooms.

One teacher has reported that she regularly uses CR three times a week. Another stated that even though her children "love doing CR" she has only used it once since her part of the study ended last fall. After a particularly lively discussion on the 1st day she tried CR, another teacher remarked, "I saw something in S. I had never seen before. I knew he was pretty sharp, but I didn't know he could think like that and express himself as well as he did. He's usually pretty quiet. This (CR) is good, I'm glad we're doing this!" However, on the last day of the project she was ambivalent, stating, "With all we have to do, it is a *real luxury* to be able to sit and listen to your children think out loud."

A different teacher saw this "luxury" as a major benefit of using CR. She explained that she really was not aware of all the difficulties that her children were presently dealing with in their lives until she started using CR. She was overhearing conversations related to issues raised in the stories that helped her better understand her students. For example, one story concerned a prisoner falsely accused of stealing. The children started talking to each other

about relatives who were presently incarcerated. The teacher was unaware of these situations even though she had moved with her students from fourth to fifth grade.

Stories are carefully selected for stimulating good CR discussions. Along with the role of the teacher as facilitator, story selection is critical to the process of helping children take the necessary risks to open up and share what they are thinking with the group. The following section describes the criteria for story selection and the formulation of central questions.

Selection of Stories

Stories used in studies of CR discussions are intended to be personally engaging to children, whatever their level of ability. The goal is for the readers to identify with the characters as they face dilemmas that do not have simple solutions. Stories are chosen with an eye toward the understandings children might bring to school from their own life experience. For example, in the CR discussion of the story *Ronald Morgan Goes to Bat* (Giff, 1990) excerpted at the beginning of this article, children can readily recall times when they were awkwardly beginning a new sport, or excluded from a game because they did not know the rules well enough to play. Stories are selected to create contexts for serious consideration of important issues including ecology, ethnic identity, animal rights, and racism.

The stories feature a character facing a major decision. Usually the pressure for the character to make the decision builds to a climax, but sometimes the children are stopped from reading the end of the story preventing them from finding out what the character decides to do. They must then use the same information the character has access to in the story, along with understandings gleaned from their life experience, to discuss what the character should do. For example, in the story *Stone Fox* (Gardiner, 1980), Willie enters a dog race to win enough money to pay the taxes on his grandfather's farm. Stone Fox, who wins every dog race he enters, wants the prize money to continue buying land back for his native people. Willie is winning the race, when 10 ft from the finish line his beloved dog dies. The central question is based on the dilemma faced by Stone Fox, "Should Stone Fox let Willie win the race?"

A CR discussion based on *Stone Fox* can stimulate emotions, justifications, and predictions as children consider important issues including (1) a boy's love for his grandfather, (2) the death of the dog as a result of being pushed too hard, (3) the idea that Native people deserve to have their land returned or at least an opportunity to purchase it, and (4) the question of how soft-hearted someone named Stone Fox is likely to be. Because it is the

nature of a dilemma to have at least two plausible options, each of which excludes the benefits of the other, this story usually provokes a lively discussion. Children become entangled in the "trade-offs" while trying to figure out what might be the best solution to the dilemma.

Stories that present dilemmas around serious issues foster CR discussions that offer rich contexts in which children can challenge each other's ideas, provide evidence for their opinions, and listen as their peers think out loud (Chinn and Anderson, 1998). Next, we examine excerpts from four lively CR discussions between fourth-grade students involved in our current study to provide a glimpse of how this process unfolds.

EXAMPLES FROM CR DISCUSSIONS

A 3-year study on CR discussions is in progress with fourth graders in rural, urban, and suburban classrooms. Two classrooms of fourth graders from each school are participating in CR discussions, whereas two classrooms of similar children are not. The excerpts that follow were drawn from CR discussions that occurred in the urban and rural classrooms involved in our current study. They were selected to provide examples of four characteristics of children's response to CR that we believe illustrate worthwhile developments in the ways children talk and think. These characteristics are (1) children's responses to text; (2) children's use of text to consider multiple possibilities; (3) children's use of tools for persuading others; and (4) children's control of topic and turn taking.

Excerpt 1: Response to Text

Blending Text with Experience. The first example (Table I) shows how children (B, S, J, G, K. . .) are able to combine events from the story they read with understandings stemming from their life experience. In the story *My Name is Different* (Prasad, 1987), a boy from China feels he must change his name from Chang-Li to Charlie to fit into his new, mostly Anglo school. In response to the question, "Should Chang-Li change his name?" some children expressed the belief that he should keep the name his grandfather gave him. Others agreed that if he changed his name to Charlie, it would mean that he was a *follower* and not a *leader*. This was an idea the teacher had recently stressed when talking about the students' choices in the face of peer pressure:

S: If he changes his name, that means he's a *follower*.

W: Well, I don't blame him, he wants to fit in. His name probably causes him trouble. Mine causes me trouble sometimes. I get teased about it plenty.

J: Yeah, if he didn't change his name, then he could be a *leader* because then he wouldn't care what they thought.

S: If he has a different name, I mean a regular name, then that would make them like him better. It matters what your name is.

M: No it doesn't, what matters is your *attitude*, not what your name is.

H: He probably had a bad attitude because his name was different. How would you like it if people made fun of your name? Wouldn't you want to change it?

D: No, not if it was the name my mama gave me. It said in the story that Chang-Li was the name his grandfather gave him.

M: What do you think, T? You haven't said anything.

It requires more time for some children to become interested in participating. When M's class began having CR discussions, he showed signs of being completely disinterested. He laid his head down and started knocking on the table directly under the microphone the researchers had placed there. His teacher had to remind him to "sit up and stop knocking" several times. After the first two discussions, one of his classmates mentioned that it was his personal goal to get M to say more in the group. By the seventh discussion (excerpted above), M was not only participating more fully, but he invited someone else who had not had anything to say to include her ideas.

Increased Student Response. When children are given an opportunity to engage in CR discussions, there is a tremendous increase in discussion participation. One study found that the rate of student talk increased from 66 words per minute in baseline discussions to 111 words per minute in CR discussions in the same four classrooms (Chinn, Anderson, and Waggoner, 2001). We "believe that the open participation structure and the opportunity to engage in seriously controversial issues are the main reasons for the great increase in. . .student talk during CR discussions" (Waggoner et al., 1995). In an interview after 7 weeks of CR, a boy explained that, you "get around [to] a lot more people and you. . .have a lot more people talk a lot . . .faster, so we. . .get a lot more ideas" (Kim et al., 2002).

Excerpt 2: Using Evidence to Consider Possibilities

Changing Minds. In the course of CR discussions, students have multiple opportunities to defend their positions. They may even decide to change their minds on the central question after listening to other students' arguments

based on evidence found in the text and the reasons others use to support their ideas.

In the story *Amy's Goose* (Holmes, 1977), Amy must decide whether or not to let a goose go free after she has nursed it back to health from a near fatal injury. In this excerpt, students weigh Amy's decision in terms of what they understand about the different characteristics of wild vs. tame animals, the fact that Amy has no siblings, and the idea that the goose may not be well enough to make the long flight south for the winter. They include ideas about families, the loss of a pet, and life and death:

> *S*: But what if it gets too dependant on Amy and if Amy eventually lets it go, it probably would depend on Amy and therefore would probably die anyway, so she'd be better to let it go for now and hope it makes it down south instead and hope it catches up with the rest of them instead of not freeing it and having more of a chance to die.
>
> *L*: I'm kind of changing, I think just as he said, if the goose starts to depend on Amy maybe it could cause the goose not to want to go, if the goose depends on Amy.
>
> *M*: If he doesn't get out sooner or later he's not gonna get used to being by himself and he's gonna be able to want just to stay with Amy.
>
> *V*: 'Cause the important thing about you is you need your family and sure that he would probably get killed out there, but that is how life goes.
>
> *M*: Life is. . .
>
> *V*: Life is. . .
>
> *L*: Yeah, but it's better off not letting him die recently but dying like-
>
> *M*: A real-
>
> *L*: Like dying of old age or something.
>
> *S*: Yeah therefore she should let him go.

In the above excerpt, children used evidence from the story and their understandings about keeping wild animals as pets to make predictions about what might happen to the goose. They were able to consider two scenarios at the same time, depending on whether Amy released the goose, or kept it in her barn. L was free to change her mind about Amy keeping the goose in the course of the discussion. This occurred after she listened to S make the point that it was possible for the goose to become too dependent on Amy to survive in the wild.

Children are able to challenge each other's ideas and may reconsider their own reasoning in the course of a CR discussion (Anderson et al., 1998). A fourth-grade girl who had experienced four CR discussions was asked in

an interview, "What if some people disagreed with you, then what would you do?" She responded as follows:

> Well, if they are really convincing, then I would probably go to the other side, 'cause I might understand the idea of the other people, 'cause I change my mind sometimes.
>
> Interviewer: And what makes you change your mind?
>
> Well, people, they really get out their feelings, they tell you why, and you never thought of that before, so, then you think, and you are like well, maybe that is true. . .. (Reznitskaya and Anderson, 2002, p. 17)

Excerpt 3: Learning Useful Tools for Persuading Others

Strategies of Persuasion. Sometimes students use a certain strategy to convince other students to change their minds, or to sway their thinking if they are still undecided, about what the character in the story should do. In this excerpt, one student asks the others in his group to put themselves in the place of the character and imagine how they would feel in a similar situation.

In the story *What Should Kelly Do?* (source unknown), Kelly's friend left a picture out in the rain. The painting was a potential prize-winning entry in an art contest that Kelly also wanted to win. Some of the children decided it was not Kelly's responsibility to take care of her friend's painting. They focused on the rules of the contest, as described in the story, which were that each child was responsible for turning their painting in at a certain time on a certain day. Then J, who had rarely participated before in any type of class discussion, presents a counterargument:

> *A*: I think she should just leave it out in the rain. It's Evelyn's responsibility to keep up with it. That's what the art teacher said.
>
> *J*: Yeah, but *how would you feel* if you had spent a whole week working on a painting and it was about to get ruined. Wouldn't you at least want your friend to tell you so you could go get it, even if you got in trouble and couldn't enter it in the contest? That's what friends are for.

J used this strategy several times in several discussions. His teacher remarked, "J. is someone who likes to stand in line and spit on people who walk by. His asking how others would feel *really* surprised me!"

Several students reported that they enjoyed being able to convince someone else to change their minds during CR discussions. For example, L explained what he liked about CR discussions:

> I like how I got to try to change H.'s mind about whether or not zoos were good places for animals. I did it by asking her if she had a favorite animal, and then I asked her if she thought it was a good thing to keep that animal locked up in a cage, and that made her change her decision about zoos being good for animals.

Spread of Strategies. Careful review of the transcripts of CR discussions shows that when one child discovers a way to get other children to change their minds, others in the group begin to use the same strategy to get similar results. Students seem to recognize how the strategy works as a tool for persuading others in the course of a CR discussion. In one study, children used 13 different strategies. When a strategy was used successfully, it spread to other children who then began using it more and more as a tool to persuade their classmates (Anderson et al., 2001).

This phenomenon is also occurring in our present study. We have taught a couple of children in each discussion group two strategies for making their discussions better. After several opportunities to practice using them outside the group, they began to try to use the strategies in CR discussions. Gradually they began to incorporate them into the discussion with greater ease and increasing frequency. As other children noticed the successful use of the strategies, they began to use them too.

Children pick up some strategies fairly easily from each other. One that is especially quick to spread to others incorporates the words *agree* or *disagree.* Children seem eager to use the word *disagree* to be able to express their opposition to another person's ideas in an acceptable and polite manner. One student told a researcher that he was able to use the strategy when he got into an argument with his father: "When he said it wasn't time to go yet, I just said, 'Dad, I *disagree*, the coach said we had to come early tonight to take pictures,' and it worked!"

Transfer to Persuasive Writing. When writing persuasive essays, children who have had the opportunity to participate in CR discussions write longer persuasive essays. They include more supporting reasons, uses of text evidence, counterarguments, and rebuttals. Results from three studies, involving 16 different classrooms, show that children who have experienced CR write essays that contain significantly more acceptable arguments, counterarguments, rebuttals, and uses of formal argument devices than matched children who have not experienced CR (Kim et al., 2002; Reznitskaya et al., 2001; Reznitskaya and Anderson, 2002).

Excerpt 4: Topic Shifts and Turns Taking

Topic Shifts. A final excerpt highlights the flow of give and take that is characteristic of CR discussions. As students learn to challenge each other's reasoning with counterarguments, they begin to respond to the counterarguments with rebuttals. A close examination of the excerpt below shows how themes are woven in and out as the discussion proceeds. Counterarguments and rebuttals overlap. They do not typically occur in a neat, sequential order.

In the story *The Paper Bag Princess* (Munch, 1983) a fierce, fire-breathing dragon takes a prince prisoner. The princess saves him by tricking the dragon into using up all of his fire and energy to destroy her castle. She is left with only a paper bag to wear. The prince refuses to marry the princess because she doesn't look like a princess in a paper bag. The central question is, "Should the princess marry the prince?"

C: I think the princess should *not* marry the prince. He's mean. He yelled at her and called her names.

D: My dad yells at my mom all the time. She stays married to him anyway. She says she just learned to put up with it.

L: Lot's of people have fights and still get married.

B: How's she going to get married if she don't have nothin' to get married in?

S: Maybe they can make up or something

T: Yeah, he can do something to show he loves her.

L: Yeah, like he can give her some candy. . .in a heart.

J: Love ain't about candy. It's about how you treat somebody.

D: If he yells at her after she did all that, he's probably going to treat her mean all the time.

S: Yeah, but if they just get married, they can make up and then he can buy her lots of clothes.

Turn Taking. Each of the 12 groups of children interviewed during this study agreed that what they liked most about CR discussions was not having to raise their hands. At the same time, they complained about getting interrupted. They reported that it was frustrating when they had something to say and could not "get a word in edge-wise." They did not like it that some children were able to dominate the discussions. When probed about this dilemma, every group concluded that they enjoyed having the freedom to talk when they had something to say and that they could learn to avoid interrupting others, if they had more time to practice with the teacher's help. Chinn, Anderson, and Waggoner (2001) explain that, "Some interruptions are inevitable [in] spontaneous, free-flowing discussions among engaged students" (p. 406).

Some Unexpected Benefits

When given the opportunity to experience CR discussions with open participation, students come to prefer this form of discussion (Kim et al., 2002).

> I like it when we get to argue, because I have a big mouth sometimes, and I like to talk out in class, and I get really tired of holding my hand up in the air. Besides, we only get to talk to each other when we go outside at recess, and this gives us a chance to argue in a nice way.

Students reported that CR helped them speak better, learn more vocabulary words, and made reading at school more interesting. One boy who spent a great deal of time in detention remarked, "If we didn't have you guys (CR instructors), our reading would have sucked!"

In each of the four classrooms we have observed this year, one to four children are not permitted to keep their desks close to other children. Instead they dot the perimeter of the classroom, hugging the walls. In some rooms, they are not allowed to get out of their seats, work with others, or contribute to classroom discussions. When asked about their seating decisions, each of the teachers reported that these children lacked the necessary self-control to sit among their peers. Teachers were quick to add that students would be able to earn the privilege of returning to the group when they proved themselves ready for the challenge.

The boys (seven out of nine were boys) who otherwise occupied the margins of the classrooms each participated wholeheartedly in the CR discussions. Perhaps the CR format provided a context where they were able to exercise their intelligence and redirect their energy in a more positive direction. The energy otherwise used to fuel disruptive behavior may have found a suitable outlet in the open forum that CR creates. One teacher remarked, "I just can't let these boys (on the side) talk during class, because if I do, they will just take over."

Children identified as learning or reading disabled often are able to "hold their own" in CR discussions requiring an ability to reason well. Even though a child may not be a good, or even an average reader, he may be able to argue his point of view with some determination and skillfulness. In one boy's case, the teacher remarked,

> You know, I didn't tell you, but J. has an IEP. He's supposed to be learning disabled. He may have trouble reading, but he can out think the rest of them. I think it gave him more confidence to be in a group with the others that read better in my room. His special education teacher told me he has really improved this year. He has read more books than any other child in this classroom. Of course, they are the shorter books in the accelerated reading program, but he read the most of anyone! That tells you something.

Collaborative Reasoning discussions provide a framework in which children can practice listening and respectfully talking with each other. A teacher in one of the urban classrooms noticed what she called a "transformation" in her classroom over the course of the CR study. She identified it as an unexpected benefit:

> You know, at first I didn't like the idea of mixing the children up in different ability groups. I didn't think it would work at all. I had to put children in the same group who don't usually hang out together. But you know, instead of them not getting along, it had just the opposite effect. They are beginning to talk to each other outside of the CR discussions. I couldn't believe it the first time it started to happen, but I guess since they agreed on some things in the discussions, they found something they had in common and it just grew from there.

Reported Limitations

Although students and teachers generally reported a positive response to participation in CR, obstacles were also reported by the teachers. First among these was the time that it requires to conduct CR discussions. Covering required curriculum necessary for students to perform well on end-of-the-year tests was a major concern for teachers in each of the classrooms in this study. One veteran teacher commented about her ongoing use of CR, "Those were great days. I learned so much about my students by listening to them, but there just isn't time to do that sort of thing anymore."

Another drawback is that the current framework for CR calls for students to be divided into three groups. The current CR model was conceived when the traditional classroom consisted of three reading groups. Teachers report that they are not able to divide their attention between the group discussion and the other two thirds of the class that "have been put on hold." Teachers in our state report that since the introduction of whole language instruction, they have been encouraged to teach the whole class and refrain from creating ability groups.

Finally, both researchers and students report an uneasiness about pushing children who are less inclined to talk in class to enter the discussions. One girl failed to enter into even 1 of the 10 CR discussions. Each time she was called on to give her opinion by her peers, she responded by raising her shoulders in an "I don't know" gesture. Her teacher reported that the girl would come up to her on the playground and talk to her one-on-one about the story and what she thought the character should do. Two other students who resisted talking reported at the student debriefing that they did not like being "cameraized." Another boy who had only entered into two discussions with an almost inaudible voice reported that he liked having an opportunity to state his opinion. The researchers debated continuously

among themselves, without resolution, about the added stress the CR discussions may have been placing on the shy students. One teacher told the students their reading grade would depend, in part, on their amount of participation in the CR discussions. Is it fair to expect everyone to participate in every discussion?

Awareness of Self and Others

As students continue to discuss with each other the reasons they use to make their decisions about how characters should respond to the dilemmas, they begin to adopt a more critical stance toward other people's reasoning. At the same time, they begin to develop more empathy for other people's feelings and points of view. Collaborative Reasoning discussions provide children with repeated opportunities to reflect deeply about their own and others' decision-making processes.

During a final debriefing session in one urban classroom, a girl who had not had too much to say during the discussions took the opportunity to share her feelings about what she liked and did not like about CR, what she learned through CR, and what she might tell a teacher who was thinking about using CR in her classroom:

T: Did you have something to add?

A: Yeah, I liked one thing and I didn't like one thing. One thing is how easy it was to see how you could put points into the stories like that and how people liked to argue back and forth.

T: You liked that?

A: ONE part I didn't like is if they had REALLY good points, it could get you stuck on the story.

T: What do you mean stuck?

A: You couldn't figure out any better points.

T: Did you have something to say, D?

D: What I liked about it that we had lots of good ideas. What I didn't like about it was that when you had good ideas and all these people had all good ideas and when they wanted to say it's like everybody interrupting and you can't say, can't say what you have to say.

T: Did these discussions help you with your learning in anyway?

M: No, I already know how to read.

T: Did you already know how to discuss?

G: No. A little bit, maybe.

A: I learned something.

T: What did you learn?

A: I learned how to argue.

T: You learned how to argue. What do you mean by that? Tell us more.

A: You go back on forth on different points until someone finally gotcha'. So you have to stop.

A: Actually I was thinking about one thing to tell the teacher. I was thinking that it would be a good way to get the wigglies out of your children, by letting them argue back and forth, getting really good ideas, making them think harder about stories and maybe even help your AR (Accelerated Reader) grades, because they're thinking about the story, they're making up questions, they are thinking about arguments they could have with people, um on that story they could have a test, they could have someone like re-read it to them and they could have questions on it, you know, and that's what really counts is that it's testing their minds to get them all geared up for the, for the. . .conversations. . .. It makes them sort of feel a little bit better when they are arguing because they are getting rid of all that stress and anger that they get somewhere else, I don't know where, exactly where, somewhere else. If you are on the playgrounds it gives them some time to think about the stories, then they get in more arguments getting together for those stories. It really helps them to learn a little bit more about what they are supposed to do when they are having arguments, but besides that point it really helps them think about stories. . .

At this point in the debriefing, everyone in the group began to applaud A's response, as if she were saying something they agreed with, but might not have thought to express. Clearly, A has been given the opportunity to watch herself adopt the process of CR as she applied similar strategies to other required reading in her classroom—taking on the role of one who (1) makes up her own questions; (2) argues by challenging other's ideas; and (3) thinks of good points to back her opinions. Further, she conveys an understanding of CR as offering a context for children to release stress as they become more active as readers and discussants.

CONCLUSION

To construct new conceptions and acquire new ways of thinking, students benefit from having an opportunity to express their ideas and listen to the ideas of others. In traditional discussions, research has found that teachers tend to dominate the talking, determine how stories are to be interpreted, regulate the topic through questioning, control who is allowed to answer questions, and decide if a response is correct. We believe these

constraints restrict opportunities for children to learn new ways of talking and thinking.

Results of studies comparing CR discussions with traditional discussions suggest "that giving students greater control over interpretation, turn taking, and topic may generally enhance engagement and elicit a higher rate of using beneficial cognitive processes" (Chinn, Anderson, and Waggoner, 2001, p. 408). Collaborative reasoning provides children with a context in which to begin to develop intellectual capabilities, improve discussion skills and self-expression, and learn to work together by expanding, rather than restricting, ways for children to talk and think in school.

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