Sprouting Magic Beans: Exploring Literature Through Creative Questioning and Cooperative Learning

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Sprouting Magic Beans: Exploring Literature through Creative Questioning and Cooperative Learning

Lynda Baloche and Thomas J. Platt

But how do I get cooperative learning activities going in my classroom? This article provides some answers to that question.

“What are all the things you might do with beans?” asks Mr. Peach. After this opening question, the children are quickly assigned to groups of three, each group given a large sheet of newsprint and each child given a marker of a different color. Mr. Peach tells the children, “I want all group members to work at the same time to write or use pictures to represent all of their ideas on the newsprint.” The children are reminded to be sensitive to each other and to encourage each other with words such as “Keep going” and “Write some more.” The groups are given 5 minutes for their task. At the end of 5 minutes Mr. Peach asks each group to discuss the ideas that are on its paper and to circle four ideas to share with the whole class. Since each child has been assigned a different color marker to use for this activity, the groups are further instructed to circle at least one idea from each color. When the groups have circled their ideas, Mr. Peach randomly calls on one member in each group to report what the group has decided to circle. All the papers are then hung up around the room, and the children are asked to rate themselves on how well they remembered to encourage everyone in their group to write down all their ideas.

Mr. Peach has arranged his classroom to include a nice a “come-together” spot, and he now invites all his children to come together in this area and to sit on the floor next to their “story buddies.” Storytime begins. “Once upon a time a young boy named Jack lived with his mother and a trusty cow. Jack’s mother was very worried because they had no money for food.”

At this point, Mr. Peach stops reading and asks the children to turn to their buddies and make a worried face. He also asks the children to make a sound like a cow might make. The children are obviously having a good time, and their excitement only increases when Mr. Peach tells them that every time he reads about the mother, they are to make a worried face; and every time he reads about the cow, they have an opportunity to moo.

The story continues. “One day Jack’s mother (worried faces) tells Jack to take the cow (a chorus of moos) to the market and to sell it for money to buy food. On the way, Jack meets a stranger who tells him that he possesses magic beans. He persuades Jack to trade the cow (moo) for a small handful of beans. Jack returns home with the handful of beans. His mother (worried) is so upset that she throws the beans out the window and sends Jack to bed without supper.”

At this point in the story, Mr. Peach stops, asks the children to close their eyes gently, and asks the question, “Suppose you were given a magic bean; what might you do?” After a quiet moment or two, children are asked to open their eyes slowly, turn to their story buddies, and share their ideas. To encourage good listening, Mr. Peach reminds the children always to repeat their partners’ ideas before sharing their own. We soon learn that “repeating an idea” is a skill the children have been practicing for some time, and we observe that most children seem both comfortable and adept at using this technique.

After some sharing time, Mr. Peach continues with the familiar story. To embellish the narrative, the children are encouraged to move their bodies like giant beanstalks and to stamp and shout like giants.

Again, Mr. Peach stops and this time asks each pair of story buddies to join up with another pair to create a foursome. He then announces to the class, “I’m going to come around and ask each group to think about our story in a different way and from a new point of view. You have about 5 minutes to discuss your ideas. I would like you to practice encouraging and sharing ideas, and, today, I would like you to do this in a special way.”

“When a member of your group shares an idea, before you share your idea, I would like you to say, ‘I like

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your idea because ______. ’ After you have told the person and the group why you like that idea, then you add your idea by saying, ‘and ______.’ I’m going to walk around and listen for this special phrase. After 5 minutes, I’ll ask one person in your group to stand and tell us the story from a new point of view.” Mr. Peach then circulates among the groups and asks each group to tell the story from a different perspective. Using the question stem, “How might this story look from the point of view of . . . ?” he asks his children to take the perspective of the cow, the beans, the beanstalk, the clouds, and Jack’s mom. The children are obviously excited, and time passes quickly.

When Mr. Peach chooses a representative from each group to share its perspective, there is much enjoyment, laughter, smiling, and encouragement. Mr. Peach then shares his observations with the children. Included in his observations is feedback about how often children used the targeted phrase, “I like your idea because ______ and ______.” Children are given a few extra minutes to turn back into their foursome to discuss the feedback given by Mr. Peach and to talk about the different perspectives they have heard. Mr. Peach then finishes the story, accompanied by a chorus of shouting giants and waving beanstalks.

After a little breathing space, the children are asked to reflect quietly on the question, “If you were the giant, how might you feel?” They share their feelings with their story buddies and are then invited to stand and use their own bodies to create statues that show how they feel as giants. This session ends with some additional discussion and with children thanking their story buddies.

The next day, we find children in groups of three, eagerly discussing the question, “How is a beanstalk like a story?” The children have 5 minutes for their discussion. Within each group, one person has been assigned the role of “noise monitor” and another the role of “idea encourager” to help insure that their time together is productive. After 5 minutes, children are instructed to make a plan for how they are going to represent their ideas to the class. The third child in each group records the group’s plan. After plans are recorded, with fannies up and heads together over large sheets of newspart, children go to work to transfer their ideas onto paper.

Once again, each child has been given a different color magic marker, and all children contribute to what is placed on the newspaper. Mr. Peach walks among the groups, watching, listening, and posing questions to help focus the work. When the groups are finished, he transforms the walls of the classroom into an art gallery by hanging the sheets of newspaper around the room. The class then embarks on a “Gallery Tour” as each group of children moves about the room to discuss the work of the other groups. Mr. Peach facilitates the conversations by asking each group to focus its discussions on “two things you liked about each group’s work and one idea that is different from your own group’s work.” The tour culminates as each group returns to its own work. Children are encouraged to discuss what they have seen and to add new ideas to their projects. Children are also given time to evaluate their plans.

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Peach focuses the discussion by asking, “How well did you follow your plan?” “Was your plan workable?” and “Was your plan clear?”

On the very next day, we notice that the window sills hold a variety of dried beans being sprouted on wet paper towels, and we see three questions on the blackboard: “How might the story change if the giant planted the beans?” “How might the story be different if Jack’s mom cooked the magic beans?” “How might Jack be transformed if he ate the magic beans?” The children are in their three-person work groups, heads together, in animated discussion. After sharing their ideas about all three questions, they choose one question and begin to make plans—plans to transform a familiar story into something new, plans to work together to script their ideas, plans to act out their script for the entire class. We wish we could stay longer.

For Vygotsky learning is a social construct: One interacts with other people in order to solve problems or grapple with concepts that one is incapable of solving or dealing with independently. His view of instruction is to offer problems and tasks which the child can work through in collaboration with classmates and teachers. Those of us who work with children, however, know that merely putting them together in groups does not insure quality interactions or effective teamwork. Fortunately, the cooper-

*. . . the cooperative learning literature that has proliferated in the past decade can help us move from mere “group work” into true teamwork and cooperation.*

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Using Cooperative Learning to Develop Cooperation

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Lesson if it is to be truly cooperative. These five elements are positive interdependence, face-to-face promotive interaction, individual accountability, interpersonal and small group skills, and group processing.

Positive Interdependence

Positive interdependence is the perception that (a) you are linked with others in a way so that you cannot succeed unless they do (and vice versa), and/or (b) their work benefits you and your work benefits them. It promotes a situation in which individuals work together in small groups to maximize the learning of all members. (Johnson, Johnson, & Holubec, 1991, p. 4:6)

There are nine basic types of positive interdependence: goal, celebration or reward, resource, role, task, fantasy, outside enemy, environmental, and identity. Several authors (Bennett, Rolheiser-Bennett & Stevahn, 1991; Dishon & O'Leary, 1984; Johnson et al., 1991) have written extensively about this concept and have many useful ideas to help teachers structure all nine types of positive interdependence into their lessons.

In the opening scenario, Mr. Peach (a composite persona of many skilled teachers we have observed in our work) used several types of positive interdependence as he structured the various cooperative activities. In addition to shared goals, groups shared resources such as newsprint and markers; roles such as recorder, reporter, noise monitor, and idea encourager; the fantasy inherent in telling the story from different perspectives and in being the giant; and their environment, as they sat next to their story buddies at the come-together spot and as they put their heads together over small-work areas delineated by sheets of shared newsprint. He might easily have structured identity interdependence by having children use the “bean theme” to create names or logos for their work triads. Although children hardly needed any specific rewards to encourage their participation, the class might have chosen to organize a tasting party of various bean dishes to accompany and celebrate the performances of their transformed scripts.

Face-to-Face Promotive Interaction

Cooperative learning requires face-to-face interaction among children within which they promote each other’s learning and success. There is no magic in positive interdependence in and of itself. It is the interaction patterns and verbal interchange among children promoted by the positive interdependence that affect education outcomes. (Johnson, Johnson, & Holubec, 1991, p. 1:11)

When structuring a lesson cooperatively, teachers make many decisions that will influence the quality of the face-to-face interaction. Among the most critical are group size, group composition, and group duration.

In the opening scenario, Mr. Peach used groups of three different sizes during the 3 days. During the story, he used pre-established story buddies. Later, he combined these pairs for impromptu foursomes. The other work was accomplished in triads that remained constant each day.

Mr. Peach understood that, in general, groups should be kept small—twos are often useful for sharing, triads offer enough diversity for a variety of ideas, and foursomes challenge the collaborative skills of all group members and allow for much complexity. Groups larger than four tend to be time consuming, and there is considerable risk that members will feel left out of discussions and decisions.

Mr. Peach also understood that children need to work in groups of various duration. Impromptu foursomes help insure that children get the opportunity to work with everyone in the class. Work triads that remain constant for several days help insure that children have the opportunity to work together long enough to learn to appreciate each other and to experience academic and interpersonal growth and success. In general, the group assignment is best decided by the teacher. Heterogeneity is the key—not just heterogeneity by ability, but heterogeneity by gender, social status, ethnic or economic background, learning styles, and content preferences.

Mr. Peach used some well-chosen techniques or structures (Kagan, 1992), including “Think-Pair-Share” and “Gallery Tour” to facilitate face-to-face interaction. When having the children consider what they might do if they were offered a magic bean, he

Heterogeneity is the key (to successful grouping)—not just heterogeneity by ability, but heterogeneity by gender, social status, ethnic or economic background, learning styles, and content preferences.
first asked them to think by themselves, then to pair, and, finally, to share some of their ideas with the entire class. This helped to insure that children would hear a variety of ideas without sacrificing either individual reflection or the opportunity to explore their own and their partner’s ideas. When it was time for children to find out what other groups thought, he chose to create a kind of gallery by having the work of each group and then having the groups tour the room to discuss what they saw. This made for lively discussion, quite unlike what might have happened if only reporters from each group stood and described what their group had done.

Mr. Peach also encouraged promotive face-to-face interaction by his own behavior. As the groups worked together, he moved from group to group, monitoring not just the content of the activity but, more importantly, the process. When he asked children to repeat an idea or to encourage each other, he listened specifically for these behaviors. When he asked children to use the phrase, “I like your idea because____ and____,” he monitored for this expression, praised its proper use, coached practice at appropriate moments, and shared his overall observations with the class. Mr. Peach behaved in such a way that the children had no doubt that he truly wanted them to promote the learning and interaction of each member in their group.

**Individual Accountability**

Within the cooperative structure, it is important to structure individual accountability, both to insure that individuals contribute to and understand the group’s work and to insure that each child can individually apply some procedure or knowledge learned in a group.

Mr. Peach used several techniques to insure individual accountability. When children worked together over large sheets of newsprint, each child used a different color marker so that, at a glance, Mr. Peach would know that each child was contributing and could also assess the quality of those contributions. When children worked in foursomes to discuss their story from different perspectives, he announced that he would randomly call on one member in each group to share that perspective with the class. As children worked together to create new scripts, he required them to list the jobs and responsibilities of each group member to help insure that their work went smoothly and that no one “hitchhiked” on the work of others.

**Interpersonal and Small Group Skills**

Placing socially unskilled children in a group and telling them to cooperate does not necessarily mean that they can and will do so. The skills of collaboration do not magically appear when they are needed but, in fact, must be taught and practiced as a part of each cooperative lesson. Role plays, simulations, and pieces of literature or film that illustrate good or poor collaborative skills are all excellent tools to sensitize children to what appropriate collaborative skills might look like and sound like. Several authors (Bennett et al., 1991; Dishon & O’Leary, 1984; Johnson et al., 1991) supply useful lists of possible collaborative skills. These might be as simple as staying with your group, using quiet voices, and taking turns—or more complex, such as making a plan, criticizing ideas (not people), and asking for justification.

Mr. Peach targeted several collaborative skills during the time described in the opening scenario. Each and every time children gathered in groups, he not only gave them specific goals to accomplish but also reminded them of specific collaborative behaviors they were to practice. These skills included encouraging, repeating an idea (a simple form of paraphrasing), making a plan, and “I like your idea because____ and____.” Given how well the groups functioned, we suspect that he has, in previous lessons, also targeted such skills as getting to your group quickly and quietly, using quiet voices, staying with your group, and not using put-downs.

**Group Processing**

When children work together in groups, it is essential that they evaluate not just how well they are completing tasks and achieving their academic goals, but also how well they are working to build and maintain productive working relationships. Several authors (Bennett et al., 1991; Dishon & O’Leary, 1984; Johnson et al., 1991) offer suggestions which can help keep group processing relevant, varied, and vital.

Mr. Peach made sure that his children processed repeatedly during their work together. He asked children to reflect on their various tasks when he asked them to circle four items from their opening listing activity. He gave them time, in their foursomes, to talk about what they liked about the different perspectives they had heard. After the Gallery Tour, he asked them to evaluate their plans, to list things they liked about each group’s work, to list ideas that were
different from their own, and to add ideas that had been gathered from other groups. Mr. Peach also asked children to reflect on how they worked together to maintain and build effective cooperative relationships.

Nurturing Creativity

In 1986, Bleedorn asked the World Future Society to rank the skills and talents that leaders of the future would need in order to be effective. The most important characteristic that emerged was creativity. Just as teamwork has become a workplace basic, so has creativity. The American Society for Training and Development recently reported that although in 1985 only about 5% of Fortune 500 companies sponsored staff development efforts to encourage creative thinking and problem solving in their organizations, by 1990 more than one-third of these same companies sponsored training in creative thinking (Gundy, 1991).

When asked, teachers frequently say that they value creativity in the children they work with (Baloche, 1984). However, as Goodlad (1983) observed, there is often a “gap between the rhetoric of individual flexibility, originality, and creativity . . . and the cultivation of these in our schools” (p. 241). Perhaps this is because, as teachers know, merely telling children to be creative does not insure creativity—just as merely telling children to work in a team does not insure teamwork. Fortunately, there is considerable creativity research that can help us understand how to nurture creativity. And happily, the classroom implications of this research are very compatible with the principles, techniques, and values of the cooperative classroom.

What is fundamentally important from the point of view of the classroom teacher is that the cooperative classroom, which is characterized by a sense of safety, acceptance, support, and belongingness (Johnson et al., 1991), is essentially the same climate that nurtures creativity (Maslow, 1976; Rogers, 1961).

Equally important is the concept of intrinsic motivation, or internal locus of evaluation, which is a basic characteristic of the creative person (Amabile, 1983; Getzels & Jackson, 1962; Maslow, 1976; Perkins, 1984; Rogers, 1961; Torrance, 1962). Group processing has the potential to structure repeated opportunities for children to evaluate their own work and processes in ways that encourage precisely the kind of internal locus of evaluation and intrinsic motivation needed for continued work and productive creativity.

Transforming Questions to Nurture Creativity

During periods of great change, answers don’t last very long but a question is worth a lot. The word question is derived from the Latin quaerere (to see), which is the same root as the word for quest. A creative life is a continued quest, and good questions are useful guides. (Goleman, Kaufman, & Ray, 1992, p. 172)

The Transforming Questions model (Baloche & Platt, 1992) was developed to encourage teachers to ask questions that encourage creative thinking. The model contains six different levels of questioning—listing, imagining, perspective taking, being, relating, and transforming—and incorporates several well-established creativity “techniques” that are compatible with cooperative group activity. While not strictly hierarchical, the questioning levels are, in general, organized from the more simple and concrete to the more complex, abstract, and divergent. Because of this, teachers might consider using several levels of questioning to help provide for the kind of “progressive warm-up” that has been found to encourage creative thinking (Nash, 1975; Torrance, 1990). We have chosen to use conditional verbs such as “might” and “could” which seem to give both children and adults more permission to imagine and be creative (Langer, 1989).

Listing questions invite children to open up to, and generate, multiple possibilities. When initiating listing or brainstorming, it is important to structure the question in a way that lets children know that multiple answers, not just one “right” answer, are being sought. Sentence stems such as “List all the potential,” “What are all the possible?” “In what ways might we?” and “How might we?” are often useful. It is also important that children understand that a playful attitude and deferred judgment are essential to this process (Koberg & Bagnell, 1981; von Oech, 1986).

In the opening scenario, Mr. Peach chose to use listing as a kind of warm-up for the literature activity that followed. By asking children to encourage each other with phrases like “Keep going” and “Write some more,” he helped establish the expectation that multiple ideas were desirable. The large format and “shared resources” of the newsprint encouraged the children to view ideas as belonging to the group rather than to the individual (Thelen, 1981) and also helped to insure the “piggy-backing” of ideas which is fundamental to the listing process (Koberg & Bagnell, 1981). Having children list ideas for 5 minutes before stopping to discuss and
choose those they liked best structured the concept of deferred judgment into the activity as well.

Imagining questions invite children to enter into a collaborative fantasy, make suppositions, and predict possible consequences. Guided imagery or sentence stems such as "Suppose ______," "Imagine," "What might happen if?" "What could?" and "What if?" are useful beginnings for the imagining process. Despite Einstein’s belief that imagination is more important than knowledge, we frequently find that children are more comfortable with facts than fantasy and need to be invited very gently to participate in the mystery of the imagining process.

Despite Einstein’s belief that imagination is more important than knowledge, we frequently find that children are more comfortable with facts than fantasy and need to be invited very gently to participate in the mystery of the imagining process. In the opening scenario, Mr. Peach uses imagining to increase his children’s identification with the story and does so in a way that provides for both quiet reflection and sharing time.

Perspective-taking questions encourage children to think flexibly and to view a problem situation or issue from several of points of view. Flexibility in thinking is considered, by some, to be at the heart of creative thinking (Guilford, 1962; Torrance, 1990).

Perspective-taking ability has been closely linked to the development of empathy, altruism, and role-taking ability (Kohlberg, 1976; Kohn, 1990). When initiating perspective taking, it is often useful to ask questions like, "How might these events look to?" "Can you tell the story from _____ perspective?" and "What other perspective might?" When choosing points of view, it is useful to consider the perspectives of animate and inanimate, human and nonhuman, part and whole, famous and unknown.

In the opening scenario, Mr. Peach chose a variety of perspectives including human, animal, animate, and inanimate. Introducing the collaborative skill "I like your idea because ______ and ______." (Bellanca & Fogarty, 1991) served several purposes.

He gave his children the message that both fluid and flexible thinking were desirable; and, perhaps even more importantly, he encouraged not just praise, but the kind of specific, positive feedback that has been linked to increases in intrinsic motivation and creativity (Amabile, 1983; Deci, 1975; Lepper & Greene, 1976).

Being questions invite children to move beyond perspective taking into total involvement, identification, and empathy. Because being questions tend to be highly reflective and access the feeling level, sharing is often best done in small groups where sensitivity and trust are more likely to develop. When using being questions, it is common to ask, "If you were ______ how might you feel?"

In the opening scenario, Mr. Peach allows both quiet reflection time and sharing time when using a being question. Verbal sharing is done only in pre-established dyads, and "body statues" are used to allow children to express their feelings in a physical way that does not require verbal articulation.

Relating questions invite children to consider the relationships among different people, places, and things. Making comparisons, associations, analogies, and metaphors allow children to break away from habitual patterns of perception and thinking. This ability, which is often considered fundamental to the creative process, is commonly known as "breakingset" (Amabile, 1983). Heterogeneity is a key to relating questions, as it is often useful to compare dissimilar elements such as concrete objects and abstract concepts, living and nonliving things, and human and nonhuman (Gordon, 1961). When asking relating questions, one might say, "How is a _____ like a ______?"

In the opening scenario, Mr. Peach chose to have children relate a concrete object, the beanstalk, to a more abstract concept, a story. Again, to help insure a positive, nurturing climate, he reinforced the collaborative skill of encouraging. By using large sheets of newsprint, he not only encouraged group ownership of ideas but also used a procedure that encouraged intergroup sharing. When each group discussed the work of other groups, they were further encouraged to do so in positive ways by talking about what they liked and what was different from their own work. This discussion continued when children were encouraged to add new ideas to their work based on what they had seen from other groups. The procedures outlined by Mr. Peach helped insure that children reflected on their work in ways that did not encourage tearing down and criti-
cism, but did encourage planning, growth, and appreciation of different ideas.

Transforming questions invite children to investigate the change process and help them to begin to explore patterns. When creating transforming questions, SCAMPER (Eberle, 1981) might be a useful aid, as it reminds one to ask: “How might you Substitute, Combine, Adapt/Adopt, Modify/Magnify/Minimize, Put to Other Uses, Elaborate/ Eliminate, Rearrange/Reverse/Recycle?” Other useful questions include, “How might ____ change if ____?” and “How might ____ be transformed if ____?”

In the opening scenario, Mr. Peach gave his children several transforming questions to choose from. When teachers want to encourage task interest, intrinsic motivation, and creativity, giving children choices is crucial (Amabile, 1983; Zuckerman, Porac, Lathin, Smith, & Deci, 1978). By using the Transforming Questions model, Mr. Peach has provided his children with many choices and the kinds of opportunities for meaningful sharing and creative thinking that are likely to transform not only their experiences with literature but also their thinking and relationships as well.

Transforming Endings

As you explore literature with your children, we invite you to ask yourself:

1. What are all the creative, cooperative ways you might encourage your children to explore literature in your classroom?

2. Suppose children were encouraged to imagine on a regular basis. How might this contribute to how your classroom looks and sounds and feels?

3. How might the creative cooperative classroom look from the point of view of your favorite author?

4. If you were a creative cooperative classroom, how might you feel?

5. How is teaching using the Transforming Questions model like life in Willy Wonka’s Chocolate Factory?

6. How might your classroom, your community, our world be transformed if children learn to sprout their own magic beans?

References


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Jean Harms and Lucille Lettow, “Illustrations in Poetry Volumes: Defining and Amplifying Meaning”


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