

Session 7

Learning From Others: Learning in a Social Context

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I. Key Questions and Learning Objectives

Key Questions

- How do people learn in social contexts?
- How can teachers develop communities of learning?

Learning Objectives

- **Assisted performance and the “zone of proximal development”**—Teachers will understand how they can identify students’ levels of proficiency and readiness for a given task and target assistance accordingly.
- **Strategies for fostering communication**—Teachers will understand the importance of language, communication, and interaction in learning. Teachers will consider several specific teaching strategies to foster and guide communication in the classroom, including the role of questioning, group work, managed discourse, and reciprocal teaching.
- **Social contexts and learning communities**—Teachers will recognize that when students work collaboratively to assist one another and take on expert roles, their learning is strengthened, reinforced, and refined. Teachers will consider strategies they can use to build learning communities.

II. Session Overview

Everything we learn takes place in a social context. From birth and throughout our lives, our interactions with others shape our understanding of the world. Learning occurs as parents talk with their children, as children play together, and as teachers assist students. Even as we sit reading a novel by ourselves, we interact with the author, the social and cultural context of the novel, and, in some sense, others who have read the same book. In this chapter, we describe how learning takes place through our interactions and communication with others. These ideas are based heavily on the work of Russian teacher and psychologist Lev Vygotsky, whose theory of learning has been developed and put into practice in schools by many other teachers and researchers.

While Piaget focused on the individual child's progress through biologically determined learning stages, Vygotsky called attention to the ways in which social environments influence this learning process. Vygotsky proposed the idea that learning and development take place in the interactions children have with peers as well as with teachers and other adults. These social interactions develop language—which supports thinking—and they provide feedback and assistance that support ongoing learning. In a variety of ways, these social interactions form the basis of the understandings that eventually become internalized in the individual. The classroom teacher plays a key role in shaping these social interactions when she carefully assesses students' current understandings and creates situations that allow students to grow further. This is the notion of teaching as “assisted performance.”

Teachers can build on the ways children learn from each other by creating a learning environment where there are ample opportunities for student-to-student discussion, collaboration, and feedback. After a discussion of Vygotsky's theory of learning as a social process, we discuss some specific teaching strategies for fostering and managing communication in the classroom. In the final section of this session, we describe how teachers and researchers have created learning communities in their classrooms and fostered collaborative learning based on this theory of learning as a social process. Such learning communities are built on a foundation of talk and exchange.

Vygotsky's Theories of Learning

Vygotsky suggested that knowledge is constructed in the midst of our interactions with others and is shaped by the skills and abilities valued in a particular culture. He argued that language is the main tool that promotes thinking, develops reasoning, and supports cultural activities like reading and writing. Vygotsky noticed that children solve problems with their speech, as well as with their eyes and hands. They talk aloud to guide their own thinking processes. Eventually, as children mature, the words they speak aloud to solve problems and to ask for guidance become internalized. Vygotsky hypothesized that this process is the basis for learning—the speech that we use aloud and with others eventually becomes internalized as part of our repertoire of strategies for problem solving. He suggested that language helps children be strategic, rather than purely impulsive, in their approach to complex problems, and it helps them to gain control over their own thinking and behavior (Vygotsky, 1978).

The teacher or a more expert peer is essential to this learning process. Individual development takes place in the context of activities modeled or assisted by this more skilled person. As we discussed in Session 2, Development and Learning, Vygotsky suggested that the teacher's job is to assess the student's understanding to locate the point in the “zone of proximal development” (ZPD) where the learner needs the assistance. Once that has been done, the teacher provides that assistance; for example, by modeling or demonstrating, by asking questions or coaching, by creating a group task in which peer assistance can occur, or by providing readings or hands-on materials that support the next stage of learning. Thus, the teacher must have a sense of what kinds of tasks different students are able to tackle and must constantly adjust the kind and amount of assistance provided as students develop. During the school year, and throughout our lives, we each need more refined and more complex kinds of assistance as we develop and learn.

Contemporary theorists have built on Vygotsky's ideas about learning as a social process and suggested some implications for teaching in the larger context of schools. Researchers at the University of California, Santa Cruz offer the following five principles for effective pedagogy, based on a Vygotskian perspective and emerging from extensive classroom research. Their work suggests the importance of:

1. Having teachers and students produce work together,
2. Developing language and literacy across the curriculum,

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3. Making meaning: Connecting school to students' lives,
4. Teaching complex thinking, and
5. Teaching through guided conversation (Dalton, 1998, cited in Tharp, Estrada, Dalton, & Yamauchi, 2000, p. 20).

In *Teaching Transformed*, Roland Tharp and his colleagues (2000) elaborate on each of these principles. The first principle suggests that teachers and students work together in “joint productive activity,” which occurs when experts and novices work together (as they do in families and communities) and have an opportunity to talk about their work. Joint activity means teachers share power with students—they share decisions about the selection of topics, as well as responsibilities for how to proceed, for instance. In traditional schools, such activity is not common. This kind of collaboration requires dialogue, negotiation, and compromise. Both oral and written language are central to such a setting (principle 2). Developing language and literacy across the curriculum is an explicit task for teachers at all grade levels. Regardless of the subject matter, developing competence in the language of instruction is a fundamental requirement for effective learning. This kind of literacy development goes beyond opportunities to speak and write everyday language, it also includes developing an understanding of academic disciplines like science, mathematics, history, literature, and art. If students are to learn academic discourse, teachers must help them understand how members of the discipline use specific language to describe, categorize, and study things.

The third principle is that of making meaning, contextualizing instruction, and building on the knowledge students bring from their families and communities. [See Session 6, Culture and Learning.] Making instruction meaningful by connecting it to students' own experiences and interests, creating engaging tasks and applications, and showing how ideas are related, accelerates the learning process. The fourth principle asserts that good learning occurs most often in cognitively challenging activities, those that require thinking and analysis, rather than merely memorization and recall. How can these four goals—joint activity, language learning, meaningful tasks, and challenging cognitive tasks—be accomplished? In large part, they occur through dialogue. The fifth principle is that the foundation of instruction is dialogic; in other words, we learn through exchange and discussion with a specific academic goal. Tharp and his colleagues refer to this as the “Instructional Conversation”:

To truly teach, one must converse; to truly converse is to teach. In the Instructional Conversation, there is a fundamentally different assumption from that of traditional lessons. Teachers who engage in conversation, like parents in their natural teaching, are assuming that the child may have something to say beyond the ‘known answers’ in the head of the adult. They occasionally extract from the child a ‘correct’ answer, but to grasp the communicative intent of the child requires the adult to listen carefully, to make guesses about the meaning of the intended communication (based on the context and on knowledge of the child’s interests and experiences), and to adjust their responses to assist the child’s efforts—in other words, to engage in conversation (Tharp et al., 2000, p. 33).

As we discuss in the next section, there are many ways teachers can support their students' learning by fostering classroom interactions and instructional conversation.

Strategies for Fostering Productive Interaction in the Classroom

At the core of theories of learning as a social process is the notion that certain kinds of interactions can assist the learning process. We discuss here two ways teachers can guide and enriching interaction with and among their students—by managing discourse and strategically assisting students' performance.

Managing Student Discussions

One way to assist and assess students' learning is by structuring classroom discussions with purposeful questions and listening carefully to what students say as a means to guide the instructional conversation toward deeper understanding. By managing the dialogue in large- and small-group discussions, the teacher can learn where students are in their understanding and can provide timely assistance through his own questions, clarifications, and

II. Session Overview, cont'd.

follow-up activities based on what he has learned. Managed dialogue means dialogue that is managed for an academic purpose—for assisting intellectual and cognitive growth. It also means a real exchange takes place—what one participant says has something to do with what someone else said. During that kind of exchange, the teacher is able to hear what her students understand and can provide the kinds of responses and questions that will move them toward greater clarity, deeper analysis, and more rigorous thinking.

The purpose for having student discussions can vary. For instance, a teacher might want to structure a discussion to enable her students to move from more naïve understandings or misconceptions toward more developed understandings. This can sometimes be accomplished through a Socratic dialogue. Using this approach, the teacher poses a provocative question central to the topic at hand, sets norms for the discourse, and models analytical thinking skills. Through her questions, the teacher guides the discourse toward understandings and connections that she wants her students to make, while allowing for debate and remaining open to novel ideas the students may generate.

One approach to managing discourse might be seen in a literature class where the teacher guides discussion about a novel through four levels of thinking: 1) the literal meaning of the author, 2) the connotative meaning of the author, 3) the interpretation of symbols, and 4) evaluation and application to the students' real-world experience (Gudmundsdottir, 1988, cited in Shulman, 1987, p. 2). The teacher's role in this case is to help students become more articulate in their analyses and interpretations of the text.

Another approach that might be seen in a history class is to use a primary source text as a way to provoke questions and gain insight into the issues and views facing others in another time. Through constant reference to the text and other previously learned ideas, the discussion can be managed to teach critical concepts and raise questions for further study. In this session's video, for example, Avram Barlowe guides his 12th-grade American history students as they participate in a carefully guided discourse about who should govern and why, and about what people of another time experienced and thought. With the text of legislation as a linchpin for their conversation, his students are learning to think about the big ideas in history using the tools of argument and evidence in social science research.

Another strategy for managing whole-class discussions is to have a "cross-talk," where small research groups gather within the whole class to share information from their work with other research groups (Brown & Campione, 1996a). As each group reports back to the larger group, not only is the class's collective knowledge developed, but the teacher has an opportunity to learn about the progress of each group, identify misconceptions, and offer suggestions for next steps. In each of these cases, it is up to the teacher to design ways of helping students talk with their peers and to guide their discourse as understandings emerge.

Teachers often ask questions when they participate in discussion; however, a teacher has a number of other ways he can help students interact with one another. For instance, a teacher might make a comment of his own in response to a student comment, ask a student to pose a question related to the most recent contribution, acknowledge what a speaker has said (e.g., by summarizing), or say nothing at all while listening attentively (Dillon, 1988, cited in Gage & Berliner, 1998, p. 408). Physics teacher Jim Minstrell describes here how he manages such discussions by building on students' prior knowledge and beliefs:

Students' initial ideas about mechanics are like strands of yarn, some unconnected, some loosely interwoven. The act of instruction can be viewed as helping the students unravel individual strands of belief, label them, and then weave them into a fabric of more complete understanding. An important point is that later understanding can be constructed, to a considerable extent, from earlier beliefs. Sometimes new strands of belief are introduced, but rarely is an earlier belief pulled out and replaced. Rather than denying the relevancy of a belief, teachers might do better by helping students differentiate their present ideas from and integrate them into conceptual beliefs more like those of scientists (Minstrell, 1989, pp. 130-131, cited in Bransford, Brown, & Cocking, 2000, p. 169).

In order for teachers to really hear what students believe, students must have room to talk at length about what they are thinking. Some research has found that this is encouraged when teachers ask an open-ended question and step back from the discussion, rather than peppering students with many discrete questions calling for a single, right answer. One simple strategy for encouraging students to talk to other students is to have the most recent student speaker "hand off" to the next student speaker—which helps to break the typical teacher-student-

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teacher-student pattern of speaking. A common issue for teachers is when to intervene. In deciding whether or not to jump in, a teacher might ask herself, "Is a digression taking too much time? ... Are pauses between contributions becoming too long? ... Is an outright error of fact being accepted? ... Are serious logical fallacies going undetected?" (Gage & Berliner, 1998, pp. 410-411). Not every error of fact needs to be corrected immediately by the teacher. Teachers can frame conversations so that students debate evidence and reason their way to defended conclusions, rather than supplying an answer that might then be less deeply understood. Again, the teacher's role is complex. She must monitor and manage the discussions so that her teaching goals are met, and yet step back from the action so that students are heard and have opportunities to communicate with each other in ways they might not on their own.

Assisted Performance and Scaffolding

Considering learning as a social process means the primary role of the teacher is as assister of the student. The teacher's task is to continually move the student's ZPD toward higher and higher levels of competence and complexity. A teacher can provide several kinds of assistance: Teachers can provide a model to show a learner how something is done, or they can demonstrate a process or skill both physically and by talking aloud about how an expert thinks. [See Session 8, Cognitive Apprenticeship.] A teacher can also assist by breaking up a task into smaller units or reorganizing the sequence of a complex task. A teacher might assist through questioning, feedback, encouragement, and praise. Each of these forms of assistance depends on clear and effective communication with students.

Perhaps the most important form of assistance is the well-timed question, which can serve a number of purposes. Questions can determine when and what a student is ready to learn and can provide information about the developmental level of each student in a particular domain. Questions can also serve to extend students' thinking further and provide opportunities for them to articulate and reflect on their thoughts. Questions can serve as "scaffolds" by guiding the student through a logical thinking process or by prompting the learner to think about a problem in a new way. "Scaffolding" is the general term for the work the teacher does to provide just enough support, depending on the needs of the student, to move students' skills and understanding within the ZPD. In a mathematics class, for example, the teacher may scaffold a multiplication problem by relating the problem to an activity that is familiar to the students, by reviewing skills needed to solve the problem, by providing tools for students to work with, and by offering support while allowing the students to find their own solutions (Brown, Collins, & Duguid, 1989).

Here is an example of scaffolding the writing process, an illustration of how a teacher adjusts her instruction to the needs of the student:

[T]he student with beginning writing skills might benefit from a question such as 'Is there something important that this sentence needs at the beginning?' Or he might benefit from straightforward information such as 'This sentence says 'ran home' but I could understand it better if it told who or what ran home.' As skills develop, the adult models increasingly sophisticated questions and problem solving (Oakes & Lipton, 1999, p. 80).

Scaffolding is an iterative process of assessing and assisting and being sensitive to the needs and the readiness of the learner. Students who have had less experience with an area, a field, or a domain will need more scaffolding than those students who have had more experience with that field or domain. They may need more sequenced supports, more attempts, and more opportunities to revise to develop expertise. Assistance can also be provided by more capable peers, by resources in the classroom, or by the Internet, software, and books. The teacher's role is to make sure that the student has access to a variety of resources appropriate to the student's needs and an understanding of how to use them.

Inherent in the notion of scaffolding is the idea that the teacher eventually fades her support as students become more skilled. The process of scaffolding is not necessarily a linear one. In fact, it is probably best compared to a spiraling process where the teacher anticipates when the students will be competent enough to work independently, but is also prepared to step back in to support students who are not quite ready. Instead of designating a particular time when they will relinquish control to the learners, effective teachers are mindful that they are always trying to release control of the learning to the students, while being available for needed assistance. When they back away or cede more control to the students, they are mindful of what the indicators will be when

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students can continue to move forward in productive ways and when they will need to step in again. The teacher is always ready to step in to provide additional scaffolding if withdrawal of the support was perhaps premature, and he is also ready to step back in when the level of challenge increases.

Developing Learning Communities

Vygotsky's theory about how individuals learn from each other is often used to explain the benefits of learning in groups. His ideas about how we learn have led to the development of "learning communities" centered around student-to-student interactions and the exchange of ideas. In a learning community, students learn through carefully structured collaboration as they participate in a shared practice or a group project in a setting that resembles a real-life situation (Wenger, 1998). Learning is always "situated" in a social context because *what* is learned cannot be separated from *how* it is learned and used (Brown, Collins, & Duguid, 1989).

Community of Learners Classrooms

Ann and Joe Campione developed such an approach to collaborative learning in their "Community of Learners" classrooms. In these classrooms,

students act as researchers, taking responsibility for learning about various aspects of a larger topic so that they can then teach the rest of the class (Brown, 1994). The need to teach the material to others triggers more active engagement and deeper learning than would sitting passively while the teacher tells, the learner listens, and a test is taken. Students are typically expected to plan and structure an area of inquiry, to incorporate and integrate academic learning into practical activities, and to produce their own work—ranging from portfolios of artwork to experimental designs and finished reports. The point is to provide opportunities for learning that is 'active, strategic, self-conscious, self-motivated, and purposeful' (Brown, 1994; Darling-Hammond, 1997, p. 110).

Work is carried out through a division of labor and through repeated cycles of work—students first research a topic, in order to share their expertise with their classmates, and finally perform a consequential task requiring that all students have mastered the content generated by each group (Brown & Campione, 1996a). Each of these activities—conducting group research, sharing, and performing a consequential task—relies on the interactions and collaboration of the students and their teacher. With each cycle of work, students have multiple opportunities to learn from one another through these interactions.

For example, in a unit on animal habitats, research groups are formed to explore different topics—food chains, predator/prey relationships, defense mechanisms, protection from the elements, and so on. Students work in groups to read about their individual topics and to create booklets that demonstrate what they have learned. Critical to the work of the class is the formation of "expert jigsaw" groups (Aronson, 1978). Each jigsaw group consists of one expert member from each research group who teaches the others what his group has learned and answers questions that may arise. Teaching others in these groups gives the learner a strong purpose for studying and helps him understand more deeply what he has learned. The process of preparing helps learners think about what they know well and what they may need to go back and review. Students find that it is easier to reflect on their own thinking when they have the opportunity to talk and compare their thinking with others. In one version of this kind of unit, each member of the class is responsible for the class's collective knowledge as they design an "animal of the future" in a final, culminating task (Brown & Campione, 1996a).

In a Community of Learners, expertise is "distributed." Each individual contributes to his research group and each group contributes a part to the whole, based upon their knowledge about a specific topic (Brown, Ash, Rutherford, Nakagawa, Gordon, & Campione, 1993). One of the most important things about such a community is this notion of a shared authority for knowing. The classroom community is a place where many ways of thinking and a range of ways of approaching a learning activity are valued. Students know that it is safe for them to try a new approach to a problem, even if it turns out not to be fruitful. The class as a whole benefits from different approaches and mistakes.

Similarly, students in each group may emerge as experts in a particular skill area, like conducting Internet research, finding resources, or reporting on their group's progress during whole-class discussions. Building on

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students' differing strengths capitalizes on the range of intelligences in a given classroom and allows students to assist each other within their different ZPDs in different domains. In learning communities, peers help one another to build knowledge and skills. The teacher is not the only expert or source of assistance.

Teacher and Student Roles in the Interactive Classroom

The development of such a classroom learning community suggests certain roles for the teacher and the learner. The teacher's role is multifaceted: she is charged not only with creating and designing a learning environment that maximizes students' opportunities to interact with each other and other experts, but also with the job of acting as an expert, model, guide, and facilitator of these social interactions. The teacher takes the lead to design the tasks, develop resources, and establish the classroom culture and norms for interactions. This includes identifying roles and appropriate behavior for students as they interact with one another, fostering discussion between and among students, and managing the complexities of multiple ongoing tasks and activities.

One of the more common misconceptions about the teacher's role in a socially interactive classroom is that the teacher backs away, stands off to the side, and lets students discover for themselves in an almost unplanned fashion. On the contrary, such classrooms are carefully constructed ecosystems in which teachers are very much involved in shaping the learning environment. Expert teachers in such settings plan extensively, gather and arrange resources, and watch diligently to figure out where their help is needed. They engage in a complex balancing act of knowing when to take center stage—when to act as an expert—and when to give up control and step back as a facilitator so that students can learn by teaching themselves and each other. The elements of this kind of teaching have been termed "guided discovery" (Brown & Campione, 1996b), "coaching" (Sizer, 1992), and "assisted performance" (Tharp & Gallimore, 1988).

The learner or student also takes on more responsibility—as a teacher of his peers, an emerging expert, a group member, and an individual responsible for his own learning and interests. Students take on an active role that depends on working with others as well as independently. Learning occurs within these interactions, as students with different strengths support their peers in developing understandings and skills.

These new roles are often seen in project-based settings, such as the Community of Learners model, where researchers have documented improvements in literacy and problem-solving skills as well as gains on standardized achievement tests (Thomas, 2000). These kinds of interactions can also be seen in classrooms where teachers create discussion-based or problem-based learning environments. Both the literature class that emphasizes text-based discussions and the mathematics class that emphasizes group problem solving and presentations of solutions take advantage of the ways in which we learn from communicating and interacting with others. Project-, problem-, and discussion-based settings, although differing in the kinds of tasks that students may be asked to carry out, share the following features:

- Students' work tends to be driven by authentic, challenging questions,
- Inquiries are carried out in depth and over time (not just in a single class period),
- The complete task cannot be accomplished by individuals alone (although individuals may prepare for aspects of the task),
- There are many opportunities for feedback on performance, and
- Teachers act as involved facilitators as students develop expertise.

Sometimes learning communities can be found outside the boundaries of traditional subjects. For instance, in a journalism class or drama club, students engage in realistic cycles of work where they collaborate, perform, and critique one another's work. In both of these settings, as in many out-of-school settings, collaboration is essential to the work getting done, and the teacher's role is to assist as students take the lead in their productions. The opportunity to perform or produce a product and receive feedback from a real audience helps students build skills and develop an understanding of the principles of an established profession. [See Session 8, Cognitive Apprenticeship.] In this way, the concept of "learning community" extends beyond the classroom walls to the school and local community, which constitute the larger audience, as well as to a community of practitioners who can provide expert models for students.

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Collaborative Learning and Group Work

Supporting learning as a social process does not require that every classroom focus solely on long-term inquiry projects. Daily tasks that foster more student-to-student collaboration can build on the range of strengths and abilities that exist in a given class. Many research studies have demonstrated that students in cooperative learning environments perform significantly better than those in competitive or individualistic situations in terms of their reasoning, the generation of new ideas and solutions, and how well they transfer what they learn from one situation to another, as well as on traditional test measures (Johnson & Johnson, 1999). Students' efforts to achieve can also be enhanced in a cooperative learning environment because it is often motivating to work with others.

However, not all cooperative group efforts are successful or motivating. The teacher plays a significant role in helping students learn to work effectively with one another; these are not skills that develop without assistance. We often assume that simply arranging students into groups will lead to productive collaboration. In most cases, however, students need support and training in how to work together effectively, divide up tasks, share knowledge, listen to each other, and rely on one another for help. Here, an elementary school teacher describes how he helped his students develop the important social skills that serve as a foundation for collaboration:

I began by having my students work on simpler, shorter activities in teams of two. For instance, I had the small groups of students work together on a set of math problems that they were already familiar with. I did this deliberately so that the students could then focus on working together rather than struggling to understand the problem. After providing various opportunities to work in these two-person groups, I increased the difficulty of the tasks as well as the size of the groups. I continually reinforced positive behavior and pointed out the types of interactions that led to successful groups. Over time students began to realize the sorts of interactions (e.g., effective communication, listening, delegation of responsibilities, and attention to each member's contributions) that needed to occur in order for their group to become successful.

Once my students had learned specific strategies to work collaboratively, I began to expand their responsibilities and increase their role in shaping their own learning experiences (Oakes & Lipton, 1999, pp. 215-216).

Another way to encourage students to depend on one another and to be responsible for group behavior is to have them practice these skills during short exercises and games that require collaboration. In *Designing Groupwork: Strategies for the Heterogeneous Classroom*, Elizabeth Cohen offers several suggestions for specific skill-building activities, like jigsaw puzzles and logic games, that are designed to be successfully completed only when every member participates (Cohen, 1994).

Another way to facilitate group work is to assign specific roles to group members that are related to how the work is to be done so there is a clear division of labor (e.g., materials manager, facilitator, reporter, recorder). The complexity of these roles will depend on the age of the students. Critical to the effectiveness of such roles is that the person playing the role and the other group members know exactly what he or she is supposed to do. Teachers can also informally recognize a particular student's strength or ability by identifying him as an "expert" (e.g., in creating graphs or developing thesis statements), so that others may rely on him for assistance. Cohen and Lotan call this "assigning competence"; in their classroom research, they found that identifying a student's strength publicly can increase the participation rates of low-status students (Cohen & Lotan, 1995).

Effective group tasks require students to draw on their individual strengths. Cohen describes such activities as "multiple ability tasks"—tasks that allow students to make different contributions and require a variety of skills and behaviors. Multiple ability tasks do not have a single, right answer; they are inherently interesting, challenging, and rewarding. Many science activities are multiple ability tasks because they demand a range of skills such as observing, manipulating materials, recording data, hypothesizing, and writing reports (Cohen, 1994). A foreign language teacher offers the following example of a multiple ability task designed to further her students' understanding of the subjunctive voice: Students are asked to create their ideal world by first discussing their individual ideas (in the target language) and then presenting their group's vision to the class with a picture, while using the subjunctive voice (Cohen, 1994, p. 129).

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David Johnson and Roger Johnson suggest five characteristics of truly cooperative groups:

- Members see their work as interdependent in terms of the task, roles, and resources (“we” instead of “me”).
- Each member is personally and individually accountable to do his or her fair share of the work. (We are assessed individually and as a group.)
- Members use interpersonal and small-group skills needed for successful cooperative efforts. (We get to know and trust one another, communicate clearly, support one another, and resolve conflicts constructively.)
- Members reflect and process as a group how effectively the group is working together (Johnson & Johnson, 1999, p. 89).

Teachers facilitate effective group work when they create truly interdependent activities with clear goals, lead discussions, monitor group work to reinforce how students can help one another, and facilitate frequent evaluations of how work is progressing. A classroom climate of trust, where students have opportunities to share their views without fear of being wrong, is essential to these student-to-student interactions. [See Session 5, Emotions and Learning.]

Reciprocal Teaching

Reciprocal teaching (RT) is a method of group instruction that enables the teacher to fade from a central role and builds in a structure for students to teach their peers. RT is a term used both because it embodies the generic idea that students can learn by taking responsibility for acquiring knowledge and teaching it to others (e.g., the expert jigsaw described in Community of Learners classrooms) and because it is a specific strategy for teaching reading comprehension. In the latter case, RT involves students working on the deep reading of text in any content area using four expert strategies: questioning, clarifying, summarizing, and predicting (Palincsar & Brown, 1984). These are strategies experts use to make sense of texts and monitor their own comprehension as they read.

The ultimate goal of RT is for students to teach each other, but initially the teacher is heavily involved in demonstrating how to create a summary of a passage, offering questions about the main ideas, encouraging students to ask clarification questions, and posing predictions about what is coming next. Over time and with practice, students take on the teaching role by offering their own summaries and questions to the group. The structure of the four strategies provides a way for students to assume the role of dialogue leader, which is initially quite difficult. Eventually this external dialogue of summarizing, questioning, and making inferences becomes internalized as a student reads a text on her own. Palincsar and Brown (1984) reported significant improvement in students' comprehension when they practiced this approach to reading. Other researchers have confirmed these findings, and a number of reading programs have incorporated the use of this strategy.

In a typical RT session, the teacher would offer a question about the text early on in the process to demonstrate this strategy to her students. As students become familiar with the strategy, they would begin to pose their own questions. The teacher's role is to assist the student leaders by offering partial questions, helping them to rephrase their questions, and generally encouraging their progress. According to Palincsar and Brown, the teacher plays three roles in her facilitation of RT: 1) she models expert behavior by making reading strategies “overt, explicit and concrete”; 2) she has a clear instructional goal to keep the discussion focused on the text, and 3) she monitors the student leaders, giving them feedback as they develop competence (Palincsar & Brown, 1984, pp. 417-418). Over time the teacher's role changes. Palincsar and Brown describe the fading process in this way:

The responsibility for the comprehension activities is *transferred to the students as soon as they can take charge of their own learning*. The idea is for the teacher to take control only when needed and to hand over the responsibility to the students whenever they are ready. Through interactions with the supportive teacher, the students are guided to perform at an increasingly mature and challenging level. In response, the adult teacher gradually fades into the background and acts as a sympathetic coach, leaving the students to handle their own learning. Like a coach, the teacher is always monitoring the discussions and is ready to step back and relinquish control or step forward to take up the reins again when necessary (Palincsar & Brown, 1984, p. 418).

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RT provides a good model for the teacher's role in a classroom based on social interactions and communication among teachers and students. The teacher's job is to assess and assist, provide models and feedback, and create carefully designed opportunities for students to learn from one another.

Conclusion

Considering learning as a social process means taking into account the role of communication and conversation in the learning process, the design of the learning environment, and the ways in which teachers' and students' interactions can facilitate learning. Each of these areas raises questions teachers can pose as they examine classrooms as settings for academically useful social interaction. In considering the role of *communication*, one might ask, Who is asking the questions? Who leads the discussions? Which voices are heard and how often? How is student-to-student communication facilitated? Consideration of *the learning environment* prompts the following questions: How authentic, purposeful, and active are the activities? What role do collaboration and community play in accomplishing tasks? What are the mechanisms for feedback and critique? Finally, the nature of teacher and student *interactions* can be assessed by asking, Who is valued as an expert and source of knowledge? How does the teacher's role change as students develop expertise? How does the teacher facilitate this growing expertise? The lens of learning in a social context helps us to think about how, through engagement in purposeful tasks, with expert assistance, and by collaboration with others, the learner is encouraged to operate "as though he were a head taller than himself" (Vygotsky, 1978, p. 102).

III. Additional Session Readings

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). The design of learning environments (Chapter 6). In *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academy Press. [Online]. Available: <http://books.nap.edu/html/howpeople1>.

Schulz, E. (1994, October). Designing woman. *Teacher Magazine*, 7. [Online]. Available: <http://www.teachermagazine.org/search/>.

IV. Session Activities

Getting Started

Answer one of the following questions in a free-write, pair-share, or small-group discussion.

1. Think of a particular time you worked with others towards a common learning goal that was both challenging and successfully accomplished. Briefly describe the learning task, activities and goals.
 - How did working with others affect how and what you learned?
 - How would you explain these effects?

To the Facilitator: These activities can be used as session warm-ups or as activities that occur after video viewing.

OR

2. "Learning relies on interactions with others."
 - Do you agree or disagree with this statement? How accurate do you think it is? Explain and give examples to clarify your position.
 - What implications does your response to this statement have for how you think about your role as teacher?

Discussion of Session Readings

To the Facilitator: You may want to select questions from the Other Learning Activities and Assessments section to launch a discussion of the session readings. The questions used for the Checking for Understanding activities may be a particularly helpful resource.

Session Video

Schools can take advantage of the fact that students learn from each other as well as their teachers. Lev Vygotsky, a psychologist and schoolteacher, proposed that learning is basically social and that both teachers and peers can shape development and the learning process. This video illustrates several principles involved in creating learning communities. The featured teachers in this video create community-centered classrooms that are carefully organized to support learning through interaction. They create opportunities for dialogue and collaboration that push students to think more clearly and to produce high-quality work. In doing so, these teachers give their students the skills for both academic success and success in the human community.

Background on Teachers

Yvonne Scott teaches fifth grade at the San Francisco Community School, San Francisco, California, a public alternative school centered on project-based learning. Ms. Scott is a 35-year veteran teacher. She holds a bachelor's degree in home economics from the University of San Francisco, California. She received her master's degree in education from San Francisco State University. Ms. Scott has been a mathematics and social studies mentor teacher in her district for many years and has presented at national and international conferences for service learning.

IV. Session Activities, cont'd.

In the first video segment, Ms. Scott works with her students as they research, design, and construct a butterfly garden. Students study butterflies across the disciplines of mathematics, social studies, science, and reading. Ms. Scott guides her students by modeling, coaching, and providing feedback, and by creating a social system in which students assist one another while she assists them. She provides a mixture of whole-class leadership, individual and group coaching, and independent learning.

Avram Barlowe teaches 10th- through 12th-grade American history at Urban Academy High School in Manhattan, New York City. He has 22 years of teaching experience and is a National Board-certified teacher. Mr. Barlowe holds a bachelor's degree in history from the City College of New York, and a master's degree in liberal studies from the City University of New York.

In the second video segment, Mr. Barlowe manages a discussion about legislation passed shortly after the Civil War that attempted to reassert control over African Americans in the South. In a Socratic manner, he helps his 12th-grade students move beyond off-the-cuff opinions toward the use of evidence and a deeper understanding of their ideas and the history of the Reconstruction era. We see in this video how student learning depends to a great extent on the opportunities students have to talk about what they are thinking.

Discussion of Session Video

To the Facilitator: You may want to pause the tape at the following points to discuss these questions. If you are watching a real-time broadcast on the Annenberg/CPB Channel, you may want to consider the questions as you watch and discuss some of them afterward.

1. Learning Community (Yvonne Scott)

Video Cue: *The Learning Classroom* icon fades out at approximately 12:15 into the program.

Audio Cue: Ms. Scott says, "There's a couple of people who have been helping everybody on the computer, and some people have been helping them to help with their wording on their reports and their art projects. And so they've been collaborating, and different people have taken the lead and everything. And so, I see the class coming together."

- What are some of the specific signs that Ms. Scott's students are becoming a learning community?
- What did you notice about the teacher's role?
- What did you observe about the students' roles in the classroom?

Creating a community of learners may increase potential for the unexpected in your classroom and decrease the amount of control you have over the minute-to-minute activity/thinking in your classroom.

- What are the possible benefits and challenges of this?
- What kinds of norms (expected behaviors) and classroom structures do you think you would want to create (or do you already have in place) to foster a community of learners?

IV. Session Activities, cont'd.

2. The Teacher's Role (Avram Barlowe)

Video Cue: *The Learning Classroom* icon fades out at approximately 19:30 into the program.

Audio Cue: Mr. Barlowe says, "So that you're constantly holding up their ideas to them in a way that they can look at them. And think about them so the discussion is not, and you're helping to structure the discussion in that way even though it's very much them exchanging their ideas."

- How does Mr. Barlowe manage the students' discussion?
 - What specific strategies do you notice him using?
- What kinds of challenges or dilemmas might whole-class discussions like this one present for the teacher?

3. The Student's Voice (Avram Barlowe)

Video Cue: *The Learning Classroom* icon fades out at approximately 26:00 into the program.

Audio Cue: Mr. Barlowe says, "You know, I think that really everybody in there can see that on any given day somebody can say something that makes you think about something in a way that you haven't thought about it before. And it doesn't matter who that kid is in the classroom. And that's good for every kid in that classroom."

- What did you notice about how Mr. Barlowe reinforces an environment of respect among his students?
- What did you notice about the students' responses to each others' questions?
- What strategies did you observe that you might use (or currently use) in your own classroom?

V. Other Learning Activities and Assessments

To the Facilitator: These activities and assessments are for you to choose from according to your group's needs and interests. Many of the activities offered here would work equally well as assignments both inside and outside of class. You may want to use class time to prepare for and/or reflect on any activities assigned as homework.

Applications

1. Journal

What particular teaching strategies or structures might you (or do you) use to capitalize on peers as supports for each other's learning? List these and give a brief description that illustrates how this teaching practice connects to principles of learning in a social context.

To the Facilitator: Learners can do free-writes answering this question. They can exchange these journals with a partner, then respond in writing to the other's journal, making comments and asking questions. The original writer then receives his or her journal back with responses from the partner. This can continue, but the original writers should contribute the final word on their own journal responses.

V. Other Learning Activities and Assessments, cont'd.

2. Field Assignments

Describe and analyze a learning environment using a concept central to learning theory as a lens. **Observe a classroom** in which the teacher uses the ideas of learning in a social context. You may use the identified strategies in the chapter and the idea that learning is a social process to guide you in your selection. Use the following questions as guides, but feel free to describe and analyze other things that you see as important to learning as social interaction.

- What particular components of the lesson capitalize on how students learn in a social context?
- How does the physical set-up of the classroom support or not support social interaction focused on learning?
- Describe the teacher's role and students' roles in this activity. What kinds of questioning and dialogue occur between and among the teacher and students?
- What kinds of assistance can be seen among students and from the teacher?

To the Facilitator: See the Curriculum Case Study (in Long-Term Assignments below) for more questions that might be used to guide observation.

3. Using Particular Strategies

In small groups consider and generate examples of one of the identified classroom strategies or designs that capitalize on how students learn in a social context. These include:

- Managed discourse,
- Scaffolding,
- Learning communities,
- Reciprocal teaching, and
- Groupwork.

Each group should answer the following questions about one of these strategies in preparation to teach their peers.

1. Describe the strategy/design in two or three sentences.
2. How can this strategy/design optimize and capitalize on principles of learning in a social context?
3. Generate one example of how this strategy might be used in the classroom to teach a particular concept, skill, or process. Be complete and detailed.
4. Consider the teacher's role in designing and applying this strategy.
 - What are the planning demands a teacher should address?
 - What kinds of questions might the teacher consider to prepare to use this strategy in a particular class?

To the Facilitator: After groups have discussed and answered these questions, use a structure to allow them to teach and report their answers. The structure might take the form of a *jigsaw*, with small groups reconstituted to include one representative from each original group and participants sharing their findings with their new group members. Consider having these reconstituted groups perform a consequential task, such as selecting one or several of these strategies to use in designing lessons to meet a specific learning objective. Groups would design appropriate lesson(s) and explain their selection of specific strategies.

Learners may also create *presentations* in which findings are shared, discussed, and possibly recorded.

Decide the structure you will use before beginning the activity and make the necessary modifications in directions and required product(s).

V. Other Learning Activities and Assessments, cont'd.

4. Create an Action Plan

Write one or two pages answering the following:

- Considering the importance of learning communities, what teaching skill(s) and dispositions will you focus on developing in yourself to make your classroom more effective for students' learning?
- Explain why these will be useful for your development as a teacher in your particular context.
- Address how you will work to develop each skill or disposition. Doing so may include gathering data, practicing developing particular kinds of lessons, and observing or collaborating with colleagues.

Checking for Understanding

1. Short-Answer Questions

- a. Explain what scaffolding means and how teachers do it.
- b. What is "distributed expertise"? Describe and explain one example of a classroom activity that shows this idea in practice.
- c. Name and describe two particular teaching strategies that foster "managed discourse" or classroom discussion and conversation focused on academic goals.

2. Essay Questions

- a. The text states: "Vygotsky proposed the idea that learning and development take place in the interactions children have with peers as well as with teachers and other adults. These social interactions develop language—which supports thinking—and they provide feedback and assistance that support ongoing learning. In a variety of ways, these social interactions form the basis of the understandings that eventually become internalized in the individual."
 - What are the implications of these aspects of learning for your teaching practice? Include in your answer specific teaching considerations and strategies you do or might use.
- b. If learning is a social process, what are some examples of the many different roles teachers and students can play in the classroom? Discuss possible roles for both teacher and student, examples of what these roles might look like in a classroom activity, and why these different roles foster learning.

3. Reflective Essay

Consider one of the learning activities you did during this session. Evaluate whether its design capitalized on how people learn in social contexts.

- How did the activity encourage joint work and conversation focused on a worthy goal?
- How might you modify this activity to be more consistent with this session's learning theory?

V. Other Learning Activities and Assessments, cont'd.

Long-Term Assignments

Curriculum Case Study

Consider your case study learning problem in terms of social interaction. (Note: If your curriculum case is on a unit you plan to teach in the future, answer in the form of what you project for that unit. You may have to anticipate some of your students' reactions.)

- How did teacher and student interactions facilitate learning?
- What activities and/or tasks required communication and collaboration?
 - Were students prepared for these tasks?
- Were there opportunities for students to assume expert roles, contribute expertise, or talk about their work?
- What kinds of language did you hear in the classroom? What kinds of dialogue occurred between you and your students?
- What successes and difficulties did you see as students interacted with you and one another?

To the Facilitator: See the Field Assignment (under Applications above) for more questions that might be used to guide reflection.

To the Facilitator: You will find other learning activities on the course Web site at www.learner.org/channel/courses/learning-classroom. You will want to look ahead to assign learners the reading and any homework for the next session.

VI. Web Sites and Organizations

The Buck Institute for Education: Project Based Learning: <http://www.bie.org/pbl/>

This Web site is a collection of resources about project-based learning, including suggestions from teachers, research articles, Web resources, and teacher training. Included is a special section on problem-based social science (economics, government, geography, and history).

The Center for Problem-Based Learning (CPBL): <http://www.imsa.edu/team/cpbl/cpbl.html>

The Center for Problem-Based Learning, established by the Illinois Mathematics and Science Academy, engages in problem-based learning research and development, teacher training, and curriculum development for K-16.

George Lucas Educational Foundation: <http://gledf.org/classrooms.html>

The George Lucas Educational Foundation Web site provides feature articles related to project-based learning, interviews with experts, and examples of project-based learning from K-12 schools around the country.

VII. References and Recommended Readings

Note that recommended readings are marked with an asterisk (*).

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- *Bransford, J. D., Brown, A. L., & Cocking, R. R. (2000). The design of learning environments (Chapter 6). In *How people learn: Brain, mind, experience, and school* (pp. 131-154) Washington, DC: National Academy Press.
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- Minstrell, J. (1989). Teaching science for understanding. In L. B. Resnick & L. E. Klopfer (Eds.), *Toward the thinking curriculum: Current cognitive research*. Alexandria, VA: Association for Supervision and Curriculum Development.

VII. References and Recommended Readings, cont'd.

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Palincsar, A., & Brown, A. L. (1984). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. *Cognition and Instruction* 1(2), 117-175.

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