Learning — A Social Process

By Paula Vincini

The theory behind learning as a social process is called social constructivism, and it emphasizes designing instruction in a framework of problem-solving, collaborative learning activities, discussion, and groupwork. Examples of this process follow:

- Management students use web-based tools to manage team decision-making
- Clinical nursing course participants use a threaded discussion board to analyze cases and form a “collaborative learning community”
- A university initiates a “change in campus culture” that encourages faculty to implement active and problem-based learning in their courses

The above examples illustrate the fundamental role that social interaction plays in the development of active knowledge construction.

The epistemological assumption of constructivism, that both the cognitive and social branches hold in common, is that all knowledge is constructed and all learning is a process of construction. Students actively create their own “realities” by interpreting experiences through a filter of prior knowledge and experiences.

The guiding principles of this philosophy include:

- Learning is an active process of constructing rather than acquiring knowledge
- Learning best occurs within authentic, realistic and complex contexts that are relevant to the learner and the discipline
- Dynamic, generative learning activities, such as problem-solving, analysis, and synthesis, help students negotiate and integrate new knowledge with old
- Instruction is a process of supporting the construction of a student’s knowledge rather than communicating knowledge to the student

In social constructivism, as in other branches of constructivism, learning occurs because a “disturbance” has been introduced in the form of a problem that requires “accommodation” by the student either by linking new knowledge to existing knowledge, thus making it meaningful, or changing this prior knowledge to be more “viable.” In this process, the new knowledge is not simply “mapped” onto the student’s mind but adapted and transformed. The role of the group is important to the student’s learning because it is through the consensus of beliefs and negotiation of ideas that knowledge is termed viable and useful.
Facilitating Social Learning

Compiled by Joyita Ghosh

Following are interview excerpts illustrating how instructors use web-based tools to enhance group collaboration and discussion.

“Because I use groups in some classes to work on writing a group paper, I create a group space for each of them to exchange files and drafts. This is especially helpful because the groups divide up the responsibilities for the paper. The students in the group also use the group discussion tool and group e-mail function to work on their assignment.”

– Professor George Norman, Economics

“By having students learn identification skills independently with the virtual slides, it opens up more class time for in-depth and detailed discussion on concepts and theories. This provides a deeper learning experience for the students, as my time is not spent identifying characteristics of the histology slides. That is done with the overlays online.”

– Professor Thomas Linsenmayer, Anatomy

“My teaching assistants use the discussion tool in Blackboard with their assigned students. I create different discussion sections within the tool for each TA, who also has his or her own home page for the course. The TAs are given Course Builder access to create groups within the course site using the teamwork tools.”

– Assistant Professor Jeff Taliafero, Political Science

Joyita Ghosh is an experienced professional from India who is working as a volunteer at Academic Technology.

Learning – A Social Process

Problem-based learning is an excellent example of an instructional model that incorporates all of the principles of social constructivism in a coherent pedagogical framework. Students are presented complex problems rooted in real-world situations through which they discover important concepts for themselves. Collaborative groupwork as well as self-directed learning is employed to help students solve these problems and construct new knowledge.

The theories of Russian psychologist Lev S. Vygotsky have had the greatest impact on the principles of social constructivism. Vygotsky’s best-known concept is termed “the zone of proximal development,” which describes the developmental gap between a student’s actual ability to independently solve complex problems and his or her potential ability to solve the same problems with the assistance of adults or more knowledgeable peers.

As Dr. Starr Roxanne Hiltz explains in an article on measuring the effectiveness of online collaborative learning (http://www.aln.org/alnweb/journal/Vol4_issue2/le/hiltz/le-hiltz.htm):

“Collaborative learning pedagogy shifts the focus from the teacher-student interaction to the role of peer relationships in educational success.”

Paula Vincini is an instructional designer with over 20 years of teaching and training experience in post-secondary education.

Resources for Collaboration

The following articles demonstrate practical applications of social constructivism in the classroom through collaborative group activities and the use of web-based tools:

Simple Elegance: Course Management Systems as Pedagogical Infrastructure to Enhance Science Learning

This article describes the use of interactive online discussion to support dialogue, coaching, collaboration, and communication in a complex clinical nursing course.

Is There a Strad in Your Attic? Engaging Students in Active Online Learning

This article relates to the use of online discussions and collaborative activities in an online Masterworks of Music course.

Collaboration In and Out of the Classroom: Clemson University’s Collaborative Learning Environment (CLE)

Because technology can facilitate collaboration, Clemson University students and faculty have access to a range of tools and services called the Collaborative Learning Environment. Examples of its use are presented in English, Abnormal Psychology, General Chemistry, and Management classes.

Extending the Pedagogy of Threaded-Topic Discussions

Forum MATRIX is a web-based tool developed at Texas A & M that is designed to support group learning and problem-solving by “collapsing threaded discussions into common documents” that can have in-context linking and notes.

Written Interaction: A Key Component in Online Learning

In this article, Dr. Judith Lapadat argues: “...well-designed online conferencing environments may be particularly suited to provide the socio-cognitive support for learning seen as fundamental to constructivist pedagogies.” She further illustrates how online discussion “enhances literate forms of higher order thinking.”
Instructional Strategies

By Paula Vincini

Online threaded discussions frequently support social process among learners. Following are different strategies to promote analysis, synthesis, and problem-solving using discussion tools.

Advances in Pedagogy: Finding the Instructor in Post-Secondary Online Learning, by Dr. Curt Bonk

Students take the primary responsibility for online discussions through these strategies discussed by Dr. Curt Bonk in the article, Advances in Pedagogy: Finding the Instructor in Post-Secondary Online Learning (http://php.indiana.edu/~cjbonk/):

- At the beginning of online discussions, students take responsibility for initiating discussions by summarizing the assigned chapter and related issues for the week and jump-starting the discussion with questions
- At the end, students “reflect on the issues and themes discussed as well as issues that remain open”
- The role of the instructor is to “weave the various points of discussion together”, as well as point out issues needing further discussion and clarification

Simple Elegance, by Dr. Gregory DeBourgh

Dr. Gregory DeBourgh’s strategies for fostering group negotiation of knowledge and collaboration are illustrated in his article, Simple Elegance, which is also referenced in this newsletter’s Resources section.

Because “not all students have equal opportunities” to discuss theoretical knowledge during weekly, one-hour, post-clinical conferences, Dr. Debourgh used a threaded discussion tool to do the following:

- Post new case studies every two weeks
- Reveal the facts of each case gradually
- Assign student groups to identify missing data, form conclusions, and determine appropriate actions
- Post reflective questions concerning both process- and content-oriented topics
- Supplement questions with pictures, graphics, and audio cues that enhance the diversity and complexity of content
- Monitor discussions and facilitate discussion to reach case outcomes (and avoid directing the discussion)

Electronic Collaborators: Learner-Centered Technologies for Literacy, Apprenticeship, and Discourse


The concept of constructivism and research into problem-based and situated learning support the initiative toward learner-centered models. This book seeks to explore technological applications of constructivism — both cognitive constructivism and social constructivism — wherein the knowledge and understanding of the learner is enhanced through a thoughtful and attentive administration of electronic collaboration.

The volume is divided into five sections: theoretical foundations of technologically enhanced collaboration; collaboration around a single machine or learning tool; asynchronous conferencing (such as message boards); synchronous (real-time) conferencing; and a vision of future possibilities. Although the vision is now four years old, it still remains ambitious in redefining academic learning environments.

The editors have collected several case studies where online conferencing was used to supplement face-to-face class time. As instructors experimented with ways to make these discussions more than simply talking online, the studies revealed a delicate balance in student behavior. Some online dialogues were designed to supplement large lectures with greater direct contact between students and instructors. The simplest uses of the tool (such as graded participation in collaborative test review) proved to be the most effective.

The authors of these articles suggest that effective online collaborative learning confronts the practitioner with a new perspective on a familiar set of questions. Projects like Northwestern's Collaboratory Notebook and Indiana University's Asynchronous Collaboration Tool highlight researchers who are asking difficult questions about the nature and structure of useful discussion and attempting to reflect this understanding in the design of their technology. Other theorists have posited that a genuinely new form of discourse arises from exploratory and issue-based exchanges in these online collaborative communities: a “transformative dialogue.” These so-called computer-supported collaborative learning tools have begun a process of mapping the present innovations while simultaneously envisioning new tools for the future.

Dan Cogan-Drew is the Technology Coordinator for the Education Department and a former high school and post-secondary teacher.

By Dan Cogan-Drew
What are the similarities & differences between Blackboard (CourseInfo) & WebBoard?

Blackboard and WebBoard are tools that facilitate teaching, learning, and online collaboration at Tufts.

Blackboard is a course management system offering features for organizing, managing, and distributing course materials. WebBoard is a versatile message board tool. Threaded discussion forums and online chat are the key features common to both tools.

Blackboard courses share a common user interface organized into sections such as Announcements, Course Documents, and Assignments. One unique Blackboard feature is the ability to selectively release content. This feature can be used to upload materials at the beginning of the semester and later used to make the materials available on a particular date or for a limited time. Other unique Blackboard attributes include automatic archiving of all finished online chats and the ability to conduct online quizzes.

WebBoard may be a good alternative to Blackboard if instructors only want to add online discussions to their course, existing website, or for their research. Unique features of WebBoard include the ability to check and edit spellings in messages, assign moderators for threaded discussions, and support inline graphics (pictures and text side-by-side).

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