INCREASED SOCIAL CONNECTEDNESS THROUGH DIGITAL PEER LEARNING
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ABSTRACT
Social connectedness has proven benefits for students’ well-being and achievement of learning outcomes. In face-to-face classrooms, students and teachers have a wealth of opportunities for authentic interactions that foster connectedness. As more and more teachers begin to use online technology to enhance or even replace the face-to-face experience, they risk losing that sense of humanness. The problem lies in striking a balance; education technology can best serve digital instruction by offering capabilities native to face-to-face. This report presents teaching methods that, when used within an enabling digital learning environment such as Canvas, increase social connectedness and personal accountability.

THE BENEFIT OF SOCIAL CONNECTEDNESS
The positive feeling we get from staying in touch with friends, family, and community—social connectedness—is a basic human motivator. Students and teachers in a learning community are no different, and education research supports the idea that meaningful social interactions benefit learning outcomes.

Even so, David Wiley recognises a trend away from social connectedness in digital education:

“With the pile of philosophical, conceptual, and empirical evidence showing the social nature of learning and the importance of human relationships (particularly the relationship between teacher and student) in learning and wellbeing, why are we working so hard to automate away any opportunity for these relationships to exist?”

Yet, research shows that teachers can (and should) have authentic relationships with their students in digital environments. Teachers can use digital learning tools to effectively design classroom interactions, to connect with students, and to guide their learning. These authentic relationships can promote a student-centred, collaborative environment and learner autonomy; and teachers can create interactions in their learning management system (LMS) that help students become more independent and personally accountable for their learning. The key is to create meaningful interaction between teachers and students, and between students and each other.

The Canvas LMS was designed to encourage student-teacher interactions as a way to enable connected, autonomous, and interactive learning. Independent research has credited the Canvas interface with greater teacher adoption of more socially-oriented and interactive approaches. Bloggers, educators, and designers oer compelling stories for the ways in which Canvas facilitates good teaching practices. Additionally, institutional evaluations of competing LMSs offer real numbers that illustrate users’ appreciation of Canvas features that support (amongst other things) learning, communication, and control (Figure 1).

MEAN STUDENT AGREEMENT
1: Strongly Disagree \ 5:Strongly Agree

<table>
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<tr>
<th>Benefits overall learning</th>
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</tr>
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Figure 1. Comparison of Canvas (n = 112) and Blackboard (n = 180) on Student Learning Objectives, adapted from Indiana University data.6,7
Among the many instructional methods that can help us achieve learning that is both connected and autonomous, peer learning stands out because it combines goal setting, collaboration, and personal responsibility with community-building and interactivity, and the positive impact these activities have on student satisfaction and success is well documented. But, with students taking on so much responsibility for their own learning, we may begin to wonder, “Is there still room for the teacher?” The answer is yes. Connected, autonomous, and interactive learning ends with students’ success in peer learning, but it starts with teachers.

**PEER LEARNING—CONNECTING STUDENTS**

Peer learning activities all have a common purpose: students work together to learn from each other. These activities can be as simple as creating a space for small student groups where they can discuss issues surrounding a problem, or as structured as providing a larger group forum where students can review a lesson, answer questions, justify their answers to their group, and then open up to a whole-class discussion. Giving students the opportunity to work together tends to have a positive outcome.

Of course, there is more to peer learning than simply putting students in groups and hoping for the best. In some cases, students’ differing skills and comprehension levels can cause group friction or feelings of alienation. Students excel when deliberate, goal-oriented communication and collaboration are part of the activity, and when they are held personally responsible for their own learning and the learning of their peers.

Research shows these interactive and community-building activities positively impact student satisfaction and success. More importantly, these activities have documented success with improving learning outcomes. Canvas has unique capabilities that enable peer learning practices, such as peer tutoring, reciprocal teaching, and cooperative learning, and it can make the digital learning environment more meaningful for student-teacher connectedness.

**ONE : MANY—RECIPROCAL TEACHING**

Students engaged in reciprocal teaching score as well as or better than over 80% of students in traditional learning environments on assessments.

Reciprocal teaching puts students in the driver’s seat. It empowers students to take control of their own learning, to thoroughly understand the content, and to open up a dialogue with their peers. Commonly applied in small group reading sessions, reciprocal teaching gives each student the opportunity to master a topic and to conduct class just as the teacher would. In practising reciprocal teaching, a student works on:

- Schools can create a tutoring “course” in Canvas where some students are enrolled with teacher-like privileges to serve as mentors. Other students can drop in to a digital course and receive tutoring or help as they need it. In Canvas, such tutoring can be synchronous, via live web Conferences or Chat, or it can be asynchronous through Discussions.
- Teachers can set up peer tutoring spaces by assigning students to Groups based on ability. Each Canvas Group has its own space where students can use the same tools that teachers use. These provide students with powerful social spaces for communicating and collaborating. For example, students can create Announcements, share Files, and collaborate on wiki Pages.
- Students can also create their own peer tutoring Groups without requiring any action on the teacher’s part.

The Canvas Groups feature connects students with online services they already use—such as email, iCal, text messaging, Twitter, and more. This helps keep the group connected and informed through whatever methods they prefer.
When students are accountable to their peers they dig deeper into course materials for richer understanding. Reciprocal teaching can produce all of the common benefits of peer learning, and research reveals a significant, positive effect on test scores.

**Canvas Gives Students Control of the Topic**

Whether teachers organise students into groups with a group leader, or want a student to teach to the entire class, Canvas lets students initiate and facilitate reciprocal teaching. The most flexible tool is the tried-and-true Canvas Discussions forum, which allows students to initiate and facilitate online class dialogue.

Palincsar & Brown created a specific “reciprocal teaching” group reading activity where students are put into groups of four and can either take turns in the roles of Summariser, Questioner, Clarifier, or Predictor or contribute to each part of the process (Figure 2).

When applied to mathematics, students have an improved understanding about how they arrive at solutions to word problems.

Since I’m the group leader, let’s get going. We just need to focus and get this done and we won’t have to stay up all night. / How are we going to solve the story problem this time?

I think we’ll need to think about order of operations. You know, P.E.M.D.A.S. Are you sure we can’t just skip it? T T

Or as the teacher said, ‘pants then shoes’. LOL D

Just to make sure everyone’s on the same page, here’s the problem we’re working on. Mel has £35 in cash and £200 available on his credit card, which has a 16% interest rate on cash advances. On a shopping trip, he buys a pair of pants for £34, two shirts for £16.50 each, and two pairs of shoes for £24 each. At the end of the day, he has £15 of his original cash remaining. How much interest will he pay on the rest of the cash he used for his purchases? Does everyone understand the problem? What don’t we know? What do we need to do to figure it out? /

Looks like we need to figure out how much cash he withdrew, and then apply the interest rate, right? What we don’t know is how much cash he withdrew. Doesn’t seem too difficult right now. P

I want to know why he didn’t use all his original cash? What, did he keep some in a different pocket? Like seriously, why not use it all. D: Why not buy some bangin shoes?

I’m not sure those questions will help us solve the problem, Ben. And yes, Larissa, I think you’ve got the right idea. ( So let’s start with that.

So, using order of operations, we know that he spent £33 on shirts and £48 on shoes. So, his total was £115. And it looks like he only used £20 of his original cash.

Right. So, he used £95 in cash advance. Apply the 0.16 interest rate, and the solution is £15.20 for his interest.

So, shirts x shoes = total, and total + purchases = new total. Then we left over cash – original = remaining, and used that amount to figure out how much he’d taken out in an advance. From there, it was easy to determine the interest he would pay by cash advance x 0.16. Sound right?

I just double-checked that. Looks good enough! Whoop, we’re DONE!! Let’s go.
Asynchronous online discussions provide for increased flexibility and participation by class members. As productive as discussions can be, when reciprocal teaching is text only, students can lose a sense of humanness and personality. So, Canvas enables audio and video as a posting option in all discussion forums, which helps students connect on a personal level and enhances their sense of community. Canvas also does little things like enabling easy hyperlinking, attaching, and embedding of media so students can easily include relevant real-world references and multimedia.

**MANY: MANY—COOPERATIVE LEARNING**

Students working in collaborative learning environments score as well as or better than 75% of students in competitive and individualistic learning environments on exams. 

Small group work supplements teachers’ instruction with goal-driven topic discussions, skills practice, and research, and makes students accountable to each other. This kind of collaborative learning improves students’ own and group learning. Cooperative learning improves student outcomes, such as:

- Motivation to learn
- Intergroup/Interpersonal relations
- Engagement in activities
- Attitude toward school

Collaborative note-taking is a simple way to introduce collaborative learning into the classroom. Students can start a shared document at the beginning of each class to capture more of the information from the lecture or discussion and to reconsider new information in light of the background knowledge and experiences of their classmates. Digital learning can further support these efforts by providing students with a space where they can work together with minimal cross-talk or unfocused gossip. Most importantly, cooperative learning outperforms competitive and individualistic learning methods and has moderate to high benefits on student achievement and time on task.

**Canvas Focuses Students on Cooperative Learning Goals**

Canvas gives students the tools they need to work out strategies, set milestones for projects, solve problems, draft documents, and share multimedia synchronously and asynchronously—all within the framework of learning goals and with the support of teacher guidance. For example: Canvas Collaborations makes something like collaborative note-taking possible. A convenient, common work space to keep track of collaborative activities without the hassle of exchanging email addresses, Collaborations integrates with real-world collaborative tools like Google Docs and EtherPad, enabling multiple users to work together on the same document at the same time. A vast majority of students greatly appreciate this tool.

Canvas Conferences provides webcasting, audio/video participation, an interactive whiteboard, and synchronous chat. Presentation materials can be uploaded to the whiteboard where students can work with a set of drawing tools with different pen widths, colours, geometric shapes, undo function, and eraser. The number of participants in a conference is limitless, so this tool allows for one-to-one and many-to-many students in one space.

Using seamlessly integrated real-world tools ensures that students are working in an authentic environment that is connected to the classroom space. Integrations with real-world tools can lower the barrier to engagement and authentic learning. When students are engaged in cooperative learning, the doors are open to those positive feelings of social connectedness, and they experience the benefits of meaningful student-student interactions.

Social interactions in peer learning activities allow students to give and get feedback from their peers, and because they see the value in this, they are finding more and more ways to build these learning communities on their own. But, even as students take on more responsibility for their own learning, connected, autonomous, and interactive learning starts with teachers. When we model good collaborative practices to students, they can begin the practice of collaborating with each other, which allows the entire learning community to be even more connected.

**CONCLUSION**

The fact that people, even in their roles as students and teachers, seek out meaningful interactions and a feeling of connection should come as no surprise. In an era when instructors have felt separated from their students because of the technology gap, Canvas has made strides in connecting instructors to their students and creating learning communities through technology. “Almost overwhelmingly—YES—students feel connected to the professor [in Canvas].” But peer learning activities are just one way for students and teachers to connect in Canvas. To further strengthen the connection, share your stories about how you connect with your students. Better yet, try Canvas for free on your own.

**SPECIAL THANKS TO INSTRUCTURECON PRESENTERS**

Michael Griffiths (2011), Enhancing Online Learning with Canvas Media | InstructureCon 2011
Susan Hauck (2013), Tutoring in the Cloud: Canvas LTI to the Rescue | InstructureCon 2013