



6 Technology

When I see the power that technology gives us in terms of the new ways of collaborating and sharing, and the quality of the resources that people are sharing, I think it's just changing everything. (Tinney, 2013)

INTRODUCTION

The purpose of this chapter is to describe how digital technologies and educational strategies can be used to design, facilitate, and direct collaborative communities of inquiry. We begin this chapter with an overview of collaborative learning, followed by descriptions of how various types of technologies can be used to design, facilitate, and direct a blended learning environment in higher education.

Sustained collaboration in the construction and confirmation of knowledge represents a new era in educational practice. The New Media Consortium and the EDUCAUSE Learning Initiative's 2010

Horizon Report (Johnson, Levine, Smith, & Stone, 2010) identifies how the “work of students is increasingly seen as collaborative by nature . . . the emergence of a raft of new (and often free) tools has made collaboration easier than at any other point in history” (p. 4). They identify collaboration and communication as a significant trend in expanding the possibilities for learning and creativity. A significant driver of this transformation in learning has been the emergence of social media technologies.

These technologies present exciting opportunities, but the challenge is in understanding the educational design and pedagogical issues associated with the best use of social media tools such as blogs, wikis, online communities and synchronous communication technologies (e.g., Adobe Connect). The true potential of these tools is in the design, facilitation, and direction of synchronous and asynchronous communities of inquiry that support worthwhile educational goals and higher-order learning activities.

We believe that all of education is experiencing a transformative shift from issues of accessing and sharing information to designing communities of inquiry where participants are actively engaged in deep and meaningful learning. Social media applications are about using the Web in a way that capitalizes on its greatest asset: bringing people together in learning communities where participants (students and teachers in the case of education) with a common interest can interact and collaborate on purposeful activities. Brown and Adler (2008) argue that the capabilities of social media tools have “shifted attention from access to information toward access to people” (p. 18). These applications allow people to come together in collaborative learning communities.

An educational community of inquiry is a group of individuals who collaboratively engage in purposeful critical discourse and reflection to construct personal meaning and confirm mutual understanding (Garrison, 2011). Historically, this has been the ideal of learning environments in higher education. Only in the last half-century, with the growth of enrolment in higher education, has the

practice been diminished as a result of larger classes and passive lectures. As social media tools continue to emerge and evolve, educators are presented with the opportunity to realize the historical ideal of higher education to learn in collaborative communities of inquiry.

COLLABORATION

Social media applications have the potential to support collaborative learning activities. In order to achieve this objective we must first step back and rethink what we are doing. What are the core values of an educational experience and how can we align our assessment activities and learning outcomes with the need for creative and innovative graduates that can work productively in collaborative environments? To help address these challenges, educators are increasingly coming to understand that we must provide more interactive and engaged learning experiences (Barkley, 2009; Kuh, Kinzie, Scuh, Whitt, & Associates, 2005). The key to engaging learners in deep and meaningful learning is through collaborative communities of inquiry – not the passive lecture approach that currently dominates higher education. As mentioned previously, engagement in collaborative discourse and reflection has historically been the hallmark of higher education. Social media tools can be used as a catalyst to redesign our blended courses for more active and collaborative learning experiences. Our first lesson is to avoid simply layering these digital tools onto a deficient educational design (e.g., information transfer model, which only focuses on the presentation and organization of content).

Collaborative communities of inquiry are characterized by sharing personal meaning and the validation of understanding through discourse (Garrison, 2011). Philosophically, this approach to learning is founded in the tradition of social-constructivist learning theory. Students are expected to assume the individual responsibility to

make sense of new concepts and ideas but with the support and feedback of a collaborative community of peers and mentors. Inquiry is at the core of a collaborative learning experience. A wide range of social media applications is available to support a collaborative inquiry approach to learning in a blended course.

SOCIAL MEDIA APPLICATIONS AND EDUCATIONAL STRATEGIES

Tim O'Reilly (2005) is credited with coining the term *Web 2.0* to describe the trend in the use of Web technology and design that aims to enhance creativity, information sharing, and, most notably, collaboration among users. Recently, this concept has been defined as *social media*: “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0” (Kaplan & Haenlein, 2010, p. 60). These applications can be used to support collaborative learning in a variety of formats. For example, social bookmarking applications can be used to share personal collections of Web-based resources to complete group projects. Blogs can facilitate student self-reflection and peer review of course assignments. Students can use wikis to summarize course discussions collaboratively, refine research papers, or even co-create online books. Social networking systems (SNS) such as Facebook and LinkedIn can be used to extend the boundaries of the classroom to create online communities and discussions and debates that include past students, potential employers, and subject matter experts. Audio, graphic, and video files can now be created and shared through social content applications such as PodOmatic, Flickr, and YouTube. These files and other data sources can then be recombined to create new meaning and interpretations by using mashup applications such as Intel’s Mash Maker and Yahoo Pipes. Synchronous communication technologies such as Skype and Adobe Connect allow students to communicate and collaborate outside of the classroom in real time.

Moreover, virtual world applications such as Second Life provide opportunities for rich synchronous interaction in 3-D immersive worlds to support collaborative and creative project-based work.

We will now examine how the following eight categories of social media applications can be used to design, facilitate, and direct collaborative learning activities in blended courses and programs.

1. social bookmarking
2. blogs
3. wikis
4. social networking
5. social content
6. mashups
7. synchronous communication and conferencing
8. virtual worlds

Additional examples of social media applications and ideas for collaborative learning activities are provided on a corresponding wiki site (<http://tinyurl.com/collaborativecommunity>).

SOCIAL BOOKMARKING

The general idea behind social bookmarking is that, rather than saving a bookmark for a Web page in a browser such as Internet Explorer or Firefox, users instead save the bookmark to a publicly accessible website (e.g., delicious.com). Other people can then see the bookmark and, ideally, be exposed to something that they wouldn't otherwise encounter. In addition, some social bookmarking sites also employ a voting system that allows users to indicate what bookmarks they found interesting (e.g., reddit.com). As a bookmark receives more and more votes, its prominence on the website increases, which in turn attracts more and more votes. The ultimate

goal is to have the bookmark appear on the home page of the social bookmarking site.

This ability to share and build upon the resources of others can help to develop relationships between concepts and people in a higher education course or program. Social bookmarking applications can be used for student-generated course reading lists, debates, individual, and group projects.

COURSE READING LISTS AND ASSIGNMENTS

For example, rather than having a predetermined reading list, at the beginning of each semester, an instructor could assign student groups to find resources related to specific course concepts or issues. These resources can then be shared and annotated by using a social bookmarking tool such as diigo.com (Figure 6.1).

These resources can also be used for pre-class reading assignments. Traditionally, this activity involved a reading from the course textbook. Social bookmarking systems such as citeULike and Edtags can now be used to provide students with access to relevant and engaging Web-based articles and resources.

Despite the ability to access relevant learning material easily, the common challenge still exists of getting students to engage meaningfully in pre-class activities. Novak, Patterson, Gavrín, and Christian (1999) have used a survey or quiz tool to create triggering events for students in advance of a synchronous session. They have coined the term *Just-in-Time Teaching* (JiT²) to describe the process of getting students to read a Web-based article and then respond to an online survey or quiz, shortly before a class. The instructor then reviews the student submissions “just-in-time” to adjust the subsequent class session in order to address the students’ needs, identified by the survey or quiz results. A typical survey or quiz consists of four concept-based questions with the final question asking students: “What did you not understand about the required

reading and what would you like me [the instructor] to focus on within the next synchronous session?”

The screenshot shows the Diigo interface for a group named 'HGSET545'. At the top, there's a navigation bar with links like 'What's New', 'Tools', 'Help', 'Feedback', 'Sign In', and 'Join Diigo'. Below this, the group's name and a search bar are visible. The main content area lists articles shared by a user named Kasthuri Gopalaratnam. The first article is 'Why Minecraft is more than just another video game - 0 views' from BBC, with tags for 'Minecraft', 'video games', 'engagement', and 'learning'. A quote from Teacher Joel Levin is included, discussing the positive effects of Minecraft on schoolchildren. The second article is 'Startup Attempts to Increase Student Motivation and Engagement by Turning Classroom Gra... - 0 views' from Kickstarter, with tags for 'education', 'engagement', 'games', and 'Motivation'. The right sidebar provides group information, including the last active date (16 Sep 13), number of members (115), items (1334), visits (1623), owner (Uche Amaechi), group type (Public), and group category (Schools & Education). At the bottom of the sidebar, there's a section for 'Most Active Members' with a grid of user avatars.

FIGURE 6.1. Co-constructed course reading list in Diigo

DEBATES

Educational research has demonstrated that in-class and online debates are an effective way to engage students in deeper approaches to learning (Kanuka, 2005). Students can use a social bookmarking application such as Social Bookmarking to collect and annotate resources for debate activities.

For example, in a blended course, student teams could be assigned to collect a series of resources that support a particular position or ideology, outside of class time. During class, students can then be asked to take the opposite side of the debate and use the resources collected by the other student teams to prepare their arguments.

INDIVIDUAL AND GROUP PROJECTS

Social bookmarking systems such as Delicious enable students to create their own personal libraries, which they can then share with their colleagues. The advantage of using such a service is that students are continually able to build and share their resource collections throughout their university experiences. This allows the students to make intentional connections between projects and assignments that they complete in different courses.

BLOGS

A *blog* is a Web-based personal journal with reflections, comments, and, often, hyperlinks to other blogs that the author of the site visits on a regular basis (Downes, 2004). People can subscribe to blogs by using a Really Simple Syndication (RSS) feed to receive automated content updates. Blogging can provide students with opportunities to receive external feedback and to make contributions to the dialogues in their fields of study. In blended learning courses, blogs can be used to support self-reflection and peer review of course

assignments, allowing students to take a deeper approach to their learning by going public with their work (Vaughan, 2008).

SELF-REFLECTION

At the beginning of the semester, an instructor can require each student to create a blog using applications such as Blogger and WordPress. Students can use these blogs to document their learning growth and development throughout the term. For example, during the first week of classes students post an initial journal entry about their personal learning goals for the course and what they think they already know about the course concepts. Then at the end of the course, students create a final journal entry that reflects on what they have learned and how they have changed, grown, and developed throughout the course.

Blogs can also be used to get students to self-reflect about their course assignments. The purpose of these entries is to have students intentionally reflect about what they learned through the process of completing the assessment activity and how they could apply this learning to their future course studies or careers. The following questions can be used to guide this activity:

1. What did you learn in the process of completing this assignment?
2. How will you apply what you learned from this assignment to the next class assignment, other courses, and/or your career?

PEER REVIEW

A peer review process can also be supported through the use of blogs. Students can post drafts of course assignments to their blogs and then their peers can review these documents and post comments to the author's blog (Figure 6.2).

Guiding questions for this peer review process could include:

1. What did you learn from reviewing this document?
2. What were the strengths (e.g., content, writing style, format, and structure) of the document?
3. What constructive advice and/or recommendations could you provide for improving the quality of this document?

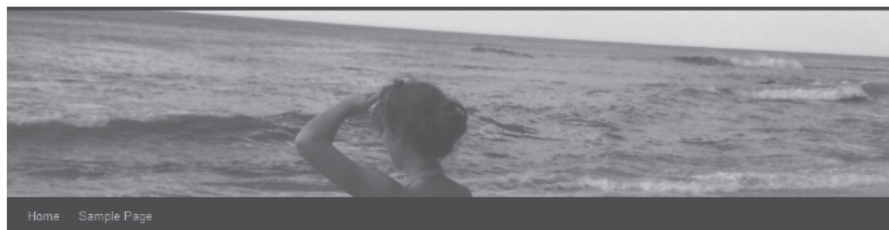
WIKIS

A wiki is a collection of web pages that can be edited by anyone, at any time, from anywhere. The possibilities for using wikis as a platform for collaborative projects are limited only by one's imagination and time (Leuf & Cunningham, 2001). In blended learning courses students can use wikis collaboratively to create course notes, online discussion summaries, group essays, and even course textbooks.

COURSE NOTES

Many students in higher education are now bringing laptop computers to class, and wiki applications such as Google Drive and TitanPad can be used to co-construct a set of course notes. This can either be an individual activity or the instructor can assign student teams the task of creating notes for specific class periods.

The advantage of using an application such as TitanPad is that students can work simultaneously on the same document without overwriting each other's work. Students can also assign a specific text colour to their wiki contributions in order to keep track of their own work.


[Home](#) [Sample Page](#)

— Blended Learning EDER879.20 - Learning Goals

Course Redesign Proposal —

Article Critique – The present state and future trends of blended learning in workspace learning settings across five countries

Posted on 23 January, 2013 by [Nikki Mountford](#)

The article focuses the current and future status and trends of workplace learning in relation to blended learning across 5 diverse countries and cultures; China, South Korea, Taiwan, United States and the United Kingdom. This study is intended to provide a marker in corporate training settings for direction and validity or intensity of blended learning. There is a focus around four main points; how is blended learning perceived and practiced in workplace settings, what are the benefits and barriers, are there cross-cultural differences and what are common and emerging strategies for blended learning (Kim, Bonk, & Teng, 2009, p. 300).

Recent Posts

- Toolkit 1: Parent Advocacy Brief: A Parent's Guide to Universal Design for Learning (UDL)
- Toolkit #2 – Accessibility: A Guide for Educators
- Toolkit #1 – Index for Inclusion
- eLearning Consortia
- D2L – not just another LMS

Recent Comments

- Alan Stephen on eLearning Consortia
- drdoug on D2L – not just another LMS

One Response to *Article Critique – The present state and future trends of blended learning in workspace learning settings across five countries*



Kim says:

30 January, 2013 at 10:17 am

Hi Nikki,

Your article summary is detailed and thorough. The article was well selected in that it is relevant to your present working situation and is therefore highly personally motivating for you. I am curious about your statement that you are, 'building a learning institution'. Does this mean more than you are working towards providing a blended learning approach for your current institution? Some clarification in your critique, around this point, would be useful. I wonder what the impact will be in your workplace, Nikki, once a blended learning / working environment is created and implemented.

FIGURE 6.2. Peer review of a blog posting of an article critique

ONLINE DISCUSSION SUMMARIES

Student-moderated online discussion forums can be used to promote individual reflection and critical dialogue between face-to-face sessions in a blended learning course. For example, at the beginning of the semester, groups of students (three to five) can self-select a topic that is related to key course concepts and/or issues. Each group is responsible for moderating and summarizing their selected online discussion for a set period of time (often one or two weeks). Students can use Garrison, Anderson, and Archer's (2001) practical inquiry model as a guide to create reflective discussion summaries. For example:

1. Triggering events – What were the key questions identified this week?
2. Exploration – What opportunities and challenges were discussed?
3. Integration – What recommendations and conclusions can you draw from the discussion?
4. Resolution/application – How can we apply the “lessons learned” from this discussion to our course assignments and future career plans?
5. Key resources (e.g., websites, articles, books) that we could use to find further information and ideas about this topic?

A wiki can then be used to draft notes and a final summary (synthesis and analysis) of the online discussion based on these questions or additional guidelines that are co-created by the students and the course teacher (see Figure 6.3).

Wikis can provide a collaborative workspace for students to construct group essays. The advantage of using an application such as Google Drive is that students can access these group documents from any computer or mobile device with Internet access.

Blended Learning – Definitions, Opportunities, and Challenges

Blended Learning - Definitions, Opportunities, and Challenges

1. Key Questions

The following are the key questions which were asked or came up during the discussion.

1. What is your definition of blended learning?
2. What do you think are the opportunities of a blended approach to learning?
3. What are some of the challenges with blended learning?
4. How do you think you could apply a blended approach in your school, workplace, and/or institution?

2. Exploration

This week we explored the definition, opportunities and challenges of a blended approach. Our responses are summarized below:

Definition

The majority of discussion posts suggested that blended learning involves the intentional integration of face-to-face and online learning opportunities. A number of people also indicated that blended learning could take place at a distance through the "cohesion" or "meshing" of asynchronous and synchronous communication opportunities. For example, the current version of our EDER679.20 graduate course in blended learning, Powers (2008) has coined the term blended online learning design (BOLD) to describe the integrated use of web-based conferencing system (e.g., *Elluminate*) with a learning management system (e.g., *Blackboard*).

Sam and Ieva also stated that this approach to learning can involve the "blending of different pedagogical methods" and people (i.e., combination of a professor and online teaching assistants). A program, which demonstrates this blending of pedagogical methods and teaching personnel is the Sunchild E-Learning Community (2013). This Alberta First Nations high school program was established in 1999 because members of the Sunchild First Nation considered the lack of education in their community and decided alternative methods were needed to reach First Nations students. Thus, they created a framework which incorporates the use of face-to-face mentors at local learning centres with online teachers who use synchronous (*Elluminate*) and asynchronous communication (*Moodle*) methods to work with the students. Figure 1 the Sunchild E-Learning Community model.

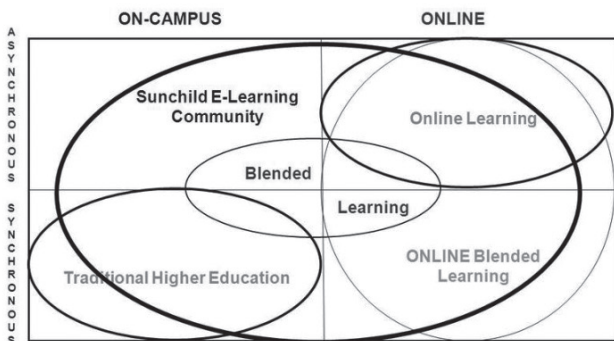


Figure 1. Sunchild E-Learning Community Framework

FIGURE 6.3. Wiki online discussion summary

Students can easily edit and revise each other's work without software or computer platform compatibility issues (e.g., Mac versus PC). The finished product can then be exported in a variety of

formats (e.g., PDF, Word, and html) and submitted for either peer or instructor assessment.

COURSE WIKI TEXTBOOKS

The potential also exists for students to use wikis to co-create course textbooks. There are numerous examples of such textbooks on the Wikibooks site. Wiki textbooks can be created and developed in a variety of ways. For example, student groups can be assigned to develop new chapters of the book while other groups can be given the task to peer review and edit existing book chapters.

SOCIAL NETWORKING

Social networking systems (SNS) allow users to share ideas, activities, events, and interests within their own individual networks. This can lead to the development of online communities of people who share common interests and activities. In blended learning courses, applications such as Facebook and LinkedIn can be used for study groups and online discussion board activities.

STUDY GROUPS

A number of educational research studies have been conducted over the years that have clearly demonstrated that, regardless of the subject matter, students working in small groups tend to learn more of what is taught and retain it longer than when the same content is presented in other instructional formats (Beckman, 1990; Chickering & Gamson, 1991; Johnson, Johnson, & Smith, 1991; McKeachie, Pintrich, Lin, & Smith, 1986). Many of the students in higher education today commute to campus and are therefore challenged to find the time and the location to work in study groups

outside of class time. Recent studies by the EDUCAUSE Applied Centre for Research (Smith, Salaway & Borreson Caruso, 2010) and the Pew Internet & American Life Project (Lenhart, Purcell, Smith & Zickuhr, 2010) have indicated that Facebook is currently the most popular social networking system in higher education and that a number of students have begun using this application to support virtual study groups.

The study group application in Facebook allows students to post messages, conduct discussions, and exchange files. The advantage of using these group areas is that students can support each other, academically and socially, outside of class time. The downside of using Facebook is that this application is designed to promote social interaction rather than to create a learning space.

ONLINE DISCUSSION BOARD

As mentioned previously, online discussion forums can be used as a powerful catalyst to promote individual reflection and critical dialogue, outside of class time. Often, institutional learning management systems (LMS) such as Blackboard are used to support these discussions. These institutional applications often present collaborative challenges as it can be difficult to have external guests participate in the discussions (e.g., have to get an IT administrator to enrol guests in the LMS) and to provide students with moderator (e.g., instructor) status. Social networking tools such as Facebook and LinkedIn can be used to overcome these issues by creating a course group space (Figure 6.4).

The membership of groups in Facebook can be open or controlled by the moderator (e.g., course instructor). Anyone who has a Facebook account can be invited to become a member and participate in the online discussions. This could include past student members of the course (e.g., alumni), external experts, and even parents. Any member of the group can moderate the group discussion

forums, and when a posting is made to the discussion, the person's Facebook profile image also appears, helping to create a more immediate sense of community.

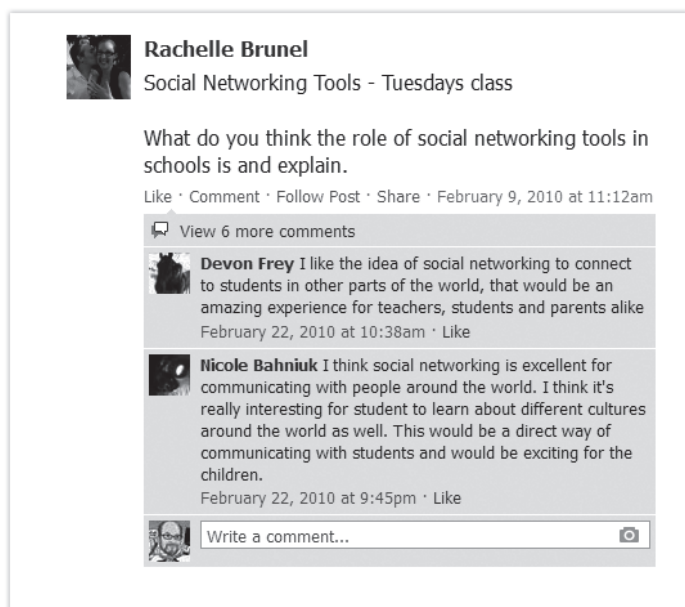


FIGURE 6.4. Student moderated online discussion forum in Facebook

SOCIAL CONTENT

Social content tools allow for the creation and exchange of user-generated content (e.g., text, audio, images, and video). Applications such as YouTube, Flickr, SlideShare, and PodOmatic provide a wealth of reusable media resources for learners and educators. These resources can be used to support pre-class activities, course learning objects, individual presentations, and group workshops.

PRE-CLASS ACTIVITIES

Teachers and students can both use social content tools to create, post, and share digital learning objects before a class session. For example, teachers can use podcasts (e.g., PodOmatic), narrated MS PowerPoint presentations (e.g., SlideShare, Adobe Presenter) or video (e.g., YouTube) to communicate course concepts, scenarios, and case studies with students before class time. The advantages of using these types of learning objects are that they allow students to listen and view course-related material outside of class time, at their own pace, and as often as required to gain understanding (see Figure 6.5).

The screenshot shows a presentation slide titled "Step 3" from the University of Calgary Teaching & Learning Centre. The slide content is as follows:

Expand the Following Expression: $(x + 1)^3$

Step 1: $(x + 1)(x + 1)(x + 1) = (x^2 + x + x + 1)(x + 1)$

Step 2: $(x^2 + 2x + 1)(x + 1) = x^3 + x^2 + 2x^2 + 2x + x + 1$

Step 3: $x^3 + 3x^2 + 3x + 1$

The slide includes a navigation bar at the bottom with "Slide 6 / 6 | Stopped" and a timer showing "00:10 / 00:10".

On the right side, there is a sidebar titled "Algebra Example" with tabs for "Outline", "Thumb", "Notes", and "Search". The "Outline" tab is active, showing a table of contents:

Slide Title	Duration
Algebra	00:09
What is Algebra?	00:16
Expand	00:17
Step 1	00:33
Step 2	00:15
Step 3	00:10

At the bottom of the sidebar, it says "0 Minutes 0 Seconds Remaining".

FIGURE 6.5. Narrated mathematical problem solving exercise

LEARNING OBJECTS

Students can also use social content applications to create learning objects to describe and explain threshold course concepts. For example, individuals or groups of students can be assigned the task

of creating images, short podcasts, or YouTube video clips about key terms, definitions, or concepts related to the course. These resources can then be posted to the course website or linked to a learning object repository such as the Multimedia Educational Resource for Learning and Online Teaching (MERLOT) site (<http://www.merlot.org/merlot/index.htm>). The learning objects linked to MERLOT are categorized by discipline, and many of these objects have also been peer-reviewed by user communities with suggestions on how to use these digital resources in course assignments.

INDIVIDUAL PRESENTATIONS AND GROUP WORKSHOPS

Individual presentations and group workshops are often an essential part of a blended learning course. Unfortunately, these activities often focus on information dissemination (e.g., lecturing) rather than on discussion, and they can also consume a tremendous amount of precious class time. In order to avoid these issues, a number of instructors have begun to require students to use various social content tools to create narrated versions of their individual or group presentations.

These narrated presentations can then be posted or linked to an online discussion forum where other students are required to view and comment on them before a class or synchronous session (e.g., narrated PowerPoint presentations and YouTube videos). Class time is then used to discuss and debate the questions and issues raised in the discussion forum about the presentations.

MASHUPS

Mashup tools allow nontechnical users to mix or “mash” different types of data in order to discover new meanings or simply to present information in an unconventional format. For example, music

Word clouds can be very useful for helping students identify key themes related to course concepts and issues. For example, at the beginning of a class, an instructor can ask the students to brainstorm what they already know about a course concept in Google Docs. The instructor copies and pastes this text into Wordle in order to create a word cloud. Higher-frequency words and phrases are displayed in a different colour and larger font size. The instructor can then facilitate a discussion about these key words and phrases and explain how they relate to a particular course concept.

This activity can also be repeated at the end of a class period or course module in order to demonstrate student changes in conceptual understanding. The instructor displays the word clouds created at the beginning and end of a class period and then asks students to compare and contrast the key words in an online discussion forum, after a class session. Conversely, an instructor can create word clouds from the discussion forum postings on a particular topic and then display these for further debate in a classroom session.

DIGITAL STORYTELLING

A series of mashup applications have been developed for both Mac (e.g., GarageBand, iMovie) and PC (e.g., Photo Story, Movie Maker) computers that allow users to combine and mix images, text, music, and video in order to create a digital story. Students can complete these stories individually or in groups and combine various forms of media, allowing for multiple pathways of creativity and success.

A number of websites have been developed to help students create their own digital stories. We highly recommend the University of Houston's Educational Uses of Digital Storytelling site (<http://digitalstorytelling.coe.uh.edu/>) as it provides examples, tools, tutorials, and rubrics for assessing digital stories.

SYNCHRONOUS COMMUNICATION AND CONFERENCING

The use of synchronous communication tools (e.g., text messaging, audio, and video) is becoming common in higher education. Some instructors are using these applications to replace classrooms sessions (e.g., online blended learning approach) while students are using these tools to support real-time collaborative project-based work.

SYNCHRONOUS CLASSROOM SESSIONS

At many institutions, synchronous communication applications such as Adobe Connect and Blackboard Collaborate have been integrated into the learning management system (Figure 6.7).

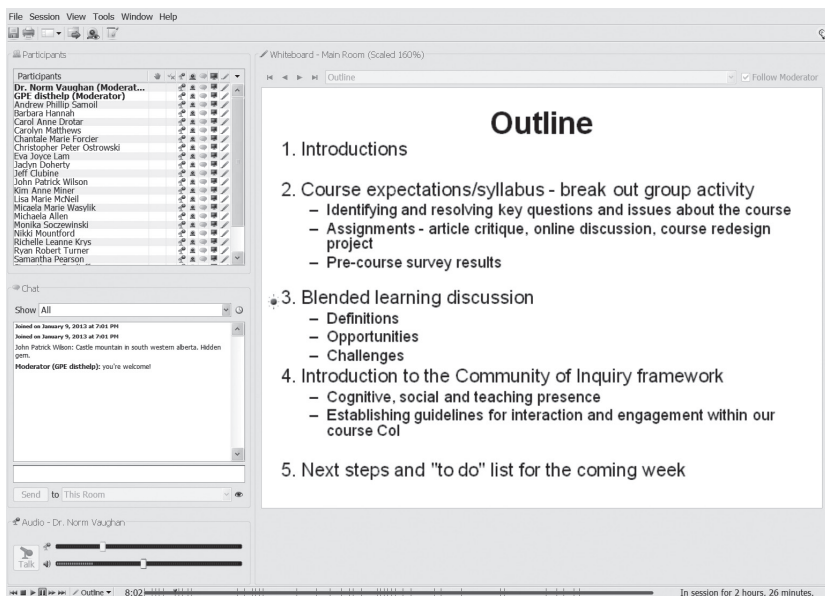


FIGURE 6.7. A Blackboard Collaborate session

Instructors can use these tools to create learning resources (e.g., record a mini-lecture, including diagrams and illustrations, in the accompanying whiteboard), host external guest presentations during class time, and/or replace physical classroom sessions with virtual ones. The focus of these sessions should not be on information transmission such as lecturing, but instead, be used to diagnose student misconceptions, foster critical dialogue, and support peer instruction.

STUDENT GROUP WORK

Students can also use synchronous applications such as Skype and WizIQ to communicate, collaborate, and co-construct projects and research papers in real-time. Because many of today's students in higher education commute to campuses, the advantage of using synchronous tools is that they can work together, anytime, anywhere they have a computer and a reasonable Internet connection. Some of these tools (e.g., Blackboard Collaborate) also allow the students to share desktop applications and to record their sessions in case a group member is absent.

VIRTUAL WORLDS

Virtual world applications such as Second Life, Croquet, and The Palace allow for synchronous interaction in 3-D immersive worlds. These tools support collaborative and creative project-based work that goes beyond text-based and audio communication. Many campus-based learning activities such as lectures, tutorials, and labs can be replicated and enhanced in a virtual world application (Figure 6.8).

For example, students can take part in virtual role-plays, simulations, and experiments. They can visit educational "islands" where they can receive mentorship and advice from resident experts (e.g.,

NASA). Students can also visit foreign islands where they can learn about different languages and cultures.



FIGURE 6.8. Students meeting for a virtual class in Second Life

FUTURE TRENDS IN TECHNOLOGY

Predicting the future is challenging in any context and potentially even more unproductive in terms of technology and its possible applications. For this reason we shall focus on identifiable trends that in the near future will most likely continue to shape educational practice significantly as it relates to blended learning.

The first and perhaps most significant trend is the adoption of collaborative approaches to teaching and learning in higher education. This involves much more than simply interacting and sharing information. Collaboration involves a purposeful partnering of students and instructors to solve relevant problems. It provides an environment to test conceptions and validate personally constructed knowledge.

The second trend is the recognition that through the adoption of social media applications, communities can be created and

sustained over time and place. Brown and Adler (2008) suggest that this will lead to “learning 2.0” environments, which go “beyond providing free access to traditional course materials and educational tools and create a participatory architecture for supporting communities of learners” (p. 28).

The third trend is the ability of social media tools to support diverse educational purposes, approaches, and audiences. This provides students with multiple pathways for success in blended learning courses. While we can identify trends and even principles of practice, the decentralization of the teaching and learning process will inevitably lead to greater diversity and opportunities to learn. The choice of what and how to learn can only be a plus for educators and students.

As opportunities for interaction and collaboration increase through the proliferation of social media technologies, more pressure will be placed on educational institutions to adopt collaborative—constructivist approaches that engage learners in communities of inquiry. Collaborative learning goes beyond passively sharing information. For this reason, social media technologies will have a transformative influence in both formal and informal learning environments.

CONCLUSION

The historical ideal of higher education has been to learn in collaborative communities of inquiry (Lipman, 1991). This chapter has demonstrated the potential of using social media technologies and educational strategies to recapture this vision, even in large introductory undergraduate courses. The key is to redesign our blended learning courses for active and collaborative learning experiences that enable students to take responsibility for their learning and validate their understanding through discourse and debate with their peers.