

# ADDING SOME TEC-VARIETY

**100+ Activities for Motivating  
and Retaining Learners Online**



**CURTIS J. BONK**

**ELAINE KHOO**

Copyright © 2014 by Curtis J. Bonk and Elaine Khoo. All rights reserved.

Subject to the exception immediately following, this book may not be reproduced, in whole or in part, including illustrations, in any form (beyond that copying permitted by Sections 107 and 108 of the US Copyright Law and except by reviewers for the public press), without written permission from the publishers. The authors have made an online version of this work available under a Creative Commons Attribution-Noncommercial-Share Alike 3.0 License; for details, please see <http://creativecommons.org/licenses/by-nc-sa/3.0/us/>. The e-book PDF can be accessed through the book homepage at <http://tec-variety.com>.

We encourage translation of the electronic version of this work (i.e., the e-book PDF) to other languages. However, please ask permission of the authors before doing so. To obtain permission for other uses beyond those outlined in the Creative Commons license, please contact one of the authors.

First published in 2014 by Open World Books, Bloomington, Indiana, USA  
(additional information and resources available at <http://OpenWorldBooks.com>).

Paperback and Kindle versions of this book are available from Amazon and other distributors. A special hardcover version of the book is available only by contacting the first author.

PDF of entire e-book as well as all 15 individual chapters available for free downloading from the book homepage at <http://tec-variety.com>.

Cover design: Alex Bonk

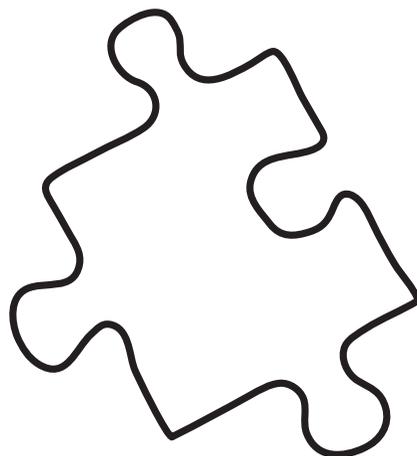
Front cover image  
Copyright: Joachim Wendler  
Shutterstock.com

Adding Some TEC-VARIETY: 100+ Activities for Motivating and Retaining Learners Online  
Authored by Curtis J. Bonk, Authored by Elaine Khoo  
ISBN-13: 978-1496162724  
ISBN-10: 1496162722  
LCCN: 2014904769

## CHAPTER TWELVE

# PRINCIPLE #9

# TENSION



**(includes Challenge, Dissonance,  
and Controversy)**

The ultimate measure of a man is not where  
he stands in moments of comfort and conveniences,  
but where he stands at times of challenge and controversy.

—Martin Luther King Jr.

As Walter Isaacson's 2011 thick biography of Steve Jobs illustrates, one individual's devotion to perfection can generate products and processes that truly change the world. Underlying that constant striving toward product perfection, however, was much human imperfection. Steve Jobs could be extremely tough, impetuous, demanding, brazen, pushy, rude, and dehumanizing. He would openly denigrate people and projects that were not producing fast enough or working out as planned. To many, he was a jerk. Writing in *Wired*, Ben Austen (2012) took a slightly softer stance and described him as highly devout in rejecting ideas that he did not like. From another point of view, he was passionate and intense in finding ways to design products reaching unsurpassed quality standards.

Though Jobs was clearly passionate about everything that happened at Apple, did he take the notion of tension and challenge too far? Perhaps underlying it all was a belief in challenging initial product designs so as to make them better. For instance, Isaacson's book reveals that Jobs had a taste for office environments rich with interaction, collabo-

ration, and dialogue. In fact, Apple's future "spaceship" campus in Cupertino, California, is being designed for "serendipitous and fluid meeting spaces" (Isaacson, 2011, p. 535) among the 13,000 employees who will work there (Gross, 2012). There will also be an immense courtyard about the length of three football fields for strolls through apricot orchards to discuss pressing issues, product designs, and project schedules.

Without a doubt, Jobs was a controversial figure whose challenges often resulted in higher-quality products. Similar things might be said of many educators and their elevated student project standards. To help you better understand such perspectives and approaches, we discuss instructional challenges and competitions in many sections of this chapter; other aspects of this chapter have to do with controversy as well as cognitive tension or dissonance.

The news media and movies often portray Steve Jobs as someone who was extremely self-assured. He had an intuitive sense that he was right about particular product design features or major company decisions. Not all of us are so lucky. Have you ever had that sense of not knowing something on the way home from school or work and then looking it up online when you got home and feeling satisfied? Naturally, that seeking behavior is often even more pronounced when you are pretty sure that you know the answer already but simply cannot retrieve the needed information at that exact moment. When you encounter such tip-of-the-tongue experiences, you are dealing with internal conflict or tension between what you think you know and your mental abilities to retrieve that information.

At that point, you have entered what famed psychologist Jean Piaget (1969) referred to as a state of disequilibrium. You may also enter such a state when you misunderstand something like a mathematical or scientific concept such as how we arrive at the seasons of the year or the conditions needed for a solar eclipse.

Such states of not knowing, misunderstanding, and contradiction are essential for effective instruction. The perception of inadequate knowledge fosters curiosity and focused energy to find the needed information. Despite the amazing power of mental tension and conflict, David and Roger Johnson from the University of Minnesota point out that educators are often extremely apprehensive about instilling a climate of controversy or intellectual conflict because it can lead to undesirable outcomes such as anger, explicit hostility, feelings of distrust among students, damaged relationships, and outright rejection (Johnson & Johnson, 2009).

Johnson and Johnson point out that Piaget's theory of cognitive development was a key part of the theoretical framework for the cooperative learning technique called constructive controversy. Piaget (1926) believed that interacting with others helps students confront their own misconceptions. Interpersonal disagreements create a sense of disequilibrium within an individual's cognitive structure. And, as noted in Chapter Six on Curiosity, it is that state of disequilibrium which motivates the search for a more adequate understanding of some topic (Piaget, 1969). In effect, opportunities for peer interaction help a learner move away from an egocentric viewpoint and begin to reason from multiple perspectives. In a Piagetian framework, peer confrontation and conflict can trigger cognitive dissonance or disequilibrium, causing one or more of the group members to seek additional information to resolve the conflict (Inhelder & Piaget, 1958).

To combat such trends, the Johnson brothers developed the constructive controversy method. In constructive controversy, the learners present opposing positions or points of view along with their rationale. The challenges from others result in some type of internal conceptual conflict or uncertainty about whether one's point of view is correct. But unlike debate situations in which participants are typically not open to differing points of view, in constructive controversy, learners are motivated to search for additional information in order to reach consensus or agreement. There is an emphasis on criticizing ideas and not people as well as listening to everyone's ideas.

Across the steps or stages of constructive controversy, learners are motivated to improve their understanding. They have a strong desire to learn more about a particular topic. They want to defend their ideas and resolve differences in an intelligent manner. How is that displayed? Well, they seek out more resources, read more materials, request additional information from others, and convert open hours or free time into study time (Reeve, 1996). And in fully online and blended classes, the available resources to scan and to search are seemingly endless.

There are many factors that can have an impact on the success of such challenging learning environments. According to Reeve (1996), if there is a reward like a grade in the end, students will lean toward the easier or less challenging tasks. However, when the situation involves self-directed learning pursuits, students will choose tasks at optimal levels of challenge in order to improve their competencies and master the content. If they had to choose between something easy and something hard, self-directed learners would side with the harder task.

Educators should be aware that there are many ways to build in challenge, dissonance, conflict, and mental tension. To challenge students, an instructor might individualize assignments, offer enrichment or supplemental activities, design open-ended tasks that require the display of at least some creativity, embed opportunities for learner exploration of content, and give students some choice in their assignments (Stipek, 1998). To foster conflict or dissonance, the same instructor might call attention to unusual or exotic elements of a problem, note exceptions to general rules, point out unexpected, paradoxical, or incongruous aspects of the data or information (Brophy, 1998). It is the discomfort or cognitive dissonance from such inconsistencies that instructors can tap into to spur learners to seek additional information (Festinger, 1957).

## Technologies for Principle #9: Tension

When you say the word “tension” or “controversy,” is there an activity involving an online technology that springs to your head as an instructor? If you have taught several classes online, you likely have read through many discussion forums brimming with controversial issues and intense learner interactions and debates. You may have also witnessed firsthand passionate debates during interactive videoconferences among students from different parts of the world (Lee & Bonk, 2013). Your students may have taken part in

interactive role plays and mock trials that involved heavy doses of tension and heated interactions. If so, they have likely been quite effective and energizing experiences.

There are many other methods available to arouse learner tension and curiosity. For instance, we have used discussion forum tools that did not allow our learners to read the contributions of their peers until they had first completed some assigned task. In addition, some of our colleagues have used argument maps or debate tools like Argunet or Cohere to foster debate and interaction. Such tools help learners externalize their reasoning processes about a topic or issue. Concept maps and mind maps, which are explained in Bonk and Zhang (2008), can serve similar purposes.

That is just a start. With some brief reflection and restructuring, the timeline, multimedia glossary, simulation, animation, virtual microscope, and other activities in Chapter Eleven could also be used for intense course challenges and debates. In fact, every chapter in this book is likely replete with tools and resources for fostering controversy, tension, and cognitive dissonance.

Ronald Cole and Teresa Crawford (2007) document how different information and communication technologies can be used for conflict resolution and peace building. Online dispute resolution tools (ODRT) can help process information, frame arguments, and ultimately resolve conflicts. Such tools can foster debate, negotiation, and arbitration. Text messaging can mobilize people for large-scale political protests and demonstrations (e.g., as we have seen in Iran, Egypt, the Philippines, and Libya) and similar social purposes. Cole and Crawford also noted how online discussion forums allowed people from Burundi to discuss the root causes of problems that they were facing and figure out ways to move forward during intense internal fighting there. As bandwidth expands, video messages can also be used to communicate personal perspectives, instead of just relying on text-based discussions.

There are many technologies for conflict resolution. Radio, e-mail, simulations and games, website portals, blogs, and instant chat can all play a role. More recently, social networking technologies like Twitter, Flickr, Ning, Facebook, and Meetup are being used to connect people for educational purposes as well as to address and lend hope for those in quite dire social, economic, or political situations. As an example, in South Korea, students voiced their displeasure with intense college entrance exams by organizing a protest through text messaging.

The tools and resources for fostering as well as resolving conflict and controversy will increase in the coming years. Educators must expose students to these resources in order to better prepare them for the real world. We are not suggesting that teachers equip their learners with tools for violence, but rather that they help students understand how to use technology to resolve conflict in a peaceful manner. Although technologies cannot create peace, they can equip people with the means to communicate more effectively and better understand a situation or point of view.

# Ten Online Activities in Principle #9: Tension

As mentioned, there will not be as many new technologies to explore in this chapter as in the last few. The debates, role plays, and structured controversies of this chapter rely on text, video, digital images, and other online resources already detailed in many sections of this book. As a result, the Web resources associated with this chapter will be rather thin in comparison to others.

Instead of concerning yourself with tackling an assembly of technology tools to foster tension and cognitive dissonance, you might think about how you can structure fully online and blended courses for intense discussions, debates, and challenges using the technologies you are already comfortable with. At the same time, you should push your students out of their comfort zones. This will not always be easy to accomplish; however, staying attuned to recent news and cultural events and continuing to think about how they might be used for class discussion of critical issues will likely spark extensive learner interest in your course as well as long-lasting knowledge gains.

## ***Activity 81. Debating Controversial Online News, Blogs, and Other Media***

**Description and Purpose of Activity.** With the emergence of participatory online news, blogs, and video reports, there is increasing controversy reflected in the news media. Video-sharing sites like ForaTV and LinkTV are filled with videos of controversial societal issues. Hundreds of blog posts each week in the Huffington Post, CNN, and the BBC alone provide a cornucopia of political, cultural, and social news brimming with material for potential class controversies and debates. Adding to the landscape of online media content, places like Big Think offer a treasure trove of issue-based videos as well as opinion-heavy blog posts. And traditional newspapers like the *Boston Globe*, the *New York Times*, *Washington Post*, and the *Wall Street Journal* are now overflowing with reader opinions in op-ed blog postings and reviews as well as minimally censored reader comments to posted articles.

Such blog posts, videos, online news reports, and social media feeds often raise significant issues which have two or more perspectives. Typically, it does not take more than a few moments to find high-quality videos on YouTube, Big Think, and TED related to hotly debated topics such as global warming, stem cell research, legalized gambling, gun control, and health care reform. In this age of climate change and ecological destruction, environmentally related news stories are especially potent. For instance, when nearly 2 million gallons of dispersants were poured into the Gulf of Mexico in spring and summer of 2010 after the infamous BP gulf oil spill catastrophe, there were questions about its future impact on the quality of marine life (Fischman, 2012).

Social and political media are equally emotional, such as when thousands of people in Wisconsin protest actions by their governor, Scott Walker, concerning collective bargaining (Imam, 2012). Similarly, videos, photographs, Twitter feeds, Facebook updates,

blogs, and online news reporting helped people around the world understand why Egyptian people were protesting in Tahrir Square during the Arab Spring. Such types of news reporting are now part of our daily lives. As CNN Tech reporter Jareen Imam (2012) notes, the Web is the most valuable resource today for information, communication, and news.

One place where you will find a wide range of controversial environmental concerns is from the Notes from Sea Level blog postings of our friend, noted filmmaker, adventurer, award-winning journalist, and blogger, Jon Bowermaster. His OCEANS 8 project explored the world's oceans from the seat of a sea kayak and was funded, in part, by National Geographic. Fortunately, OCEANS 8 programming can now be freely viewed online at LinkTV. Equally important, his media-rich blog postings have provided immense amounts of content on wide-ranging environmental issues for more than a decade. Notes at Sea Level, as well as Bowermaster's latest website, TakePark, set the stage for a rich collection of engaging curricular activities. Lately, he has been concerned with hydraulic fracturing (also known as "fracking") (Bowermaster, 2012a, 2012b), which is being debated in his home state of New York (Gibney, 2012). Of course, there are plenty of bloggers, writers, and videographers on the more conservative side of the spectrum who supply substantive amounts of content for opposing viewpoints, if needed.

**Skills and Objectives.** Includes comparison and contrast, data analysis, seeking reasoned judgments, evaluating claims, judging the credibility of sources, appreciating other points of view, forming arguments and rebuttals, logical reasoning, and backing up claims. Learners may also get involved in a social issue or cause. Involvement may lead to further study in an area.

**Advice and Ideas.** Make note of online media when issues related to your field are raised. In fact, you could devote entire weeks of the course to controversial issues that students can select to explore and react to. Once they have investigated such resources, students can respond to debates that the instructor has designed in an online discussion forum, private or public wiki, or course blog. Students might be assigned to particular sides of such a debate and be requested to cite from two or more online articles or blog posts with appropriate online links, to back up each major comment submitted. When done, each student or team of students could draft papers on the topic, including their reflections on the debate process.

In the case of op-ed pieces and blog posts, your students can often post personal comments and reactions at the online news site. Instructors could, in fact, require students to post their reactions, or, alternatively, record them in a personal blog or course wiki. The news writer or filmmaker might be invited to respond to student questions, concerns, and issues related to their work in a Webcast or online chat. Such experts could also comment on any related student projects or discussions. In addition, others affected by the controversial topic (e.g., those in local communities impacted by contaminated waters) might be interviewed. Students could even join protests and community forums.

**Variations and Extensions.** Instead of text-based debates, students on each side of a debate could be required to find two or more visuals that back up their side. Such visuals might include shared online videos, animations, simulations, photographs, or graphic designs. They must use them to support their online or F2F discussions and debates. An independent panel or pair of students could judge the quality of the visual connections.

### **Key Instructional Considerations**

*Risk index: Medium*

*Time index: Medium*

*Cost index: Low*

*Learner-centered index: High*

*Duration of the learning activity: 1–2 weeks or as needed*

## **Activity 82. Structured Controversy**

**Description and Purpose of Activity.** As indicated earlier, constructive forms of controversy can foster rich instructional situations where learners seek out additional knowledge. Controversies arise when there is some sort of mismatch, or conflict, in the attitudes, beliefs, and theories of individuals or groups of people about some topic or subject area. Tension can also simmer and suddenly ignite when there are differences in access to available information. Controversies will also heat up when blatant misstatements and misconceptions are deliberately or inadvertently placed in information sources. When educators find such a topic, dilemma, or issue, it can serve as a lightning rod for student quests to gather more information and then share their knowledge and opinions. Of course, with the bountiful information available on the Web today, that quest is increasingly taking place in online environments.

There is much that needs to be done to set the table for a successful structured controversy event. For instance, Johnson and Johnson (1995) argue that students must be reminded to listen to opposing points of view and make an effort to understand different positions or perspectives related to the controversy. They must also be willing to change their minds as evidence is presented. Learners should also attempt to arrive at a solution only after all evidence has been submitted and adequately analyzed. Disagreements during the process are to be directed only at the other positions, not at the person or team holding the positions (Johnson & Johnson, 2009).

There are a wealth of benefits when a structured controversy is effectively planned, including forcing students to grasp and organize content and ideas, prepare their positions, and search for new experiences or information to resolve the uncertainty or dilemma (Zainuddin & Moore, 2003). Such intellectual struggles are powerful learning tools. In addition to cognitive gains during the process, students will be actively engaged and their curiosity will be sparked.

The typical procedure for structured controversy is for students to be presented with a controversial issue or dilemma of some type. These controversies might be found in recent news such as drilling in the Arctic refuge, bombing specific locations in Yemen or Mali suspected of harboring terrorists, lifting the national debt ceiling, and expanding tax exemptions for manufacturers of electric cars and other key sources of alternative energy. Next, pairs or teams of students are assigned to research their particular advocacy position. Naturally, the instructor should provide supporting documents, resources, and references to help each pair or team conduct their research. Students from different groups will then present their positions. In fully online courses, this presentation could be either asynchronously conducted in an online discussion thread or occur synchronously in an online Web conference. Different sides of an issue are then argued

and debated with main points highlighted. Any uncertainty or misstatements in the respective presentations will arouse disequilibrium and conceptual conflict (Johnson & Johnson, 1995).

After a set amount of time has elapsed, student teams will switch roles and research the other side of the issue. In the process, learners must reconceptualize and reorganize the content in unique ways. The groups of pro and con sides then meet again online to discuss the two different positions or points of view. Each team of two people representing a side could present a dilemma or issue for the other one to resolve. At some point, the pair drops their advocacy role and prepares a joint consensus report on the problem, issue, or question.

**Skills and Objectives.** Includes seeing multiple sides to an issue, intellectual inquiry, building intellectual arguments, synthesizing various information sources, critical analysis of a problem, rebutting another's challenges, seeking reasoned judgments, teamwork, comparison and contrast, data analysis, backing up claims, listening skills, and communication (Zainuddin & Moore, 2003). Learner perspective taking is elevated when they exchange roles or points of view.

**Advice and Ideas.** List some possible controversial topics in your field. To help in such endeavors, skim through recent online journals, newsletters, blogs, and reports. Choose one or more such topics and begin to draft a curriculum activity around it. Run it by colleagues or former students for suggestions and potential resources. Be sure to tie your assessments to your learning goals and expectations. Consider drafting an initial grading rubric and share that with your students.

In setting up the controversial task, organize a set of resources that adequately frame the major arguments on each side of the issue. Try to avoid any personal bias in the selection, organization, and explanation of such resources. At the same time, fully explain student roles, expected time frames and results, and how student performance will be evaluated. Learners should realize that in such a structured debate format, unlike a traditional debate situation, the ultimate goal is not to win but to achieve some form of consensus and compromise position through active listening and remaining open to alternative points of view. If the discussion and debate is taking place online, the instructor might act as a moderator who checks for understanding of the different viewpoints and clarifies points made.

To avoid situations where some team members do more work than others, require everyone to present. There should also be time assigned for teams to ask clarifying questions of other teams. Students could compose the compromise position in a wiki or a discussion forum which is posted for other teams to respond to. A final paper can be written and expanded based on such feedback.

**Variations and Extensions.** Experts or practitioners from the real world might be solicited to assist each team or viewpoint, possibly providing timely resources, ideas, or insights into a field or debate topic. Such assistance can serve to deepen the debate as well as apprentice students into a field of study.

## **Key Instructional Considerations**

*Risk index: Medium*

*Time index: Medium*

*Cost index: Low*

*Learner-centered index: High*

*Duration of the learning activity: 1–2 weeks or as needed*

## **Activity 83. Structured Role Debates (e.g., Court Forums)**

**Description and Purpose of Activity.** In Activity #32 (Chapter Seven) we discussed a virtual world role play. Later on in Activity #61 (see Chapter Ten), we discussed role play of a scholar, scientist, or innovator. Those role-play activities were highly open ended and intended to foster creative thinking and reflection. However, as shown in the preceding Activity #82, such role play can also be more structured and specifically designed to foster debate and controversy. For instance, in the Kelley Direct online MBA program at Indiana University, a special “role-play forum” was designed in 2005 for students to take on specific roles in case and scenario discussions and debates on different topics.

With this course management system tool, business law professors could create a “court forum” in which students assumed the role of plaintiffs, defendants, and judges (Liu, Lee, Bonk, Magjuka, & Liu, 2008). The court forum was a modified tool for asynchronous conferencing that was specifically tailored as a space for interaction, discussion, and debate of business law cases. Students could place their arguments in the simulated court forum. When properly structured, students encountered real-world conflicts and controversies that they might later experience in the business world. Our research indicated that instructors and students found such activities to be highly interactive (Liu et al., 2008). In some cases, instructors assumed the role of a judge who asked difficult questions of both sides after the plaintiffs and defendants (i.e., the students) had posted a summary of their arguments. Students could view what was happening on the other side of the argument but were not allowed to post to it. In the next round, a group of judges weighed in. Such judges might be experts in the field, prior students of the course, or students currently taking the course (Lee, Magjuka, Liu, & Bonk, 2006).

This technique is a method of dividing the task responsibility while structuring the forms of interaction and debate. Learners will have seen court situations in movies, dramas, and possibly in real life. The online court forum energizes learners to come up with the winning point of view. They must dig deep into the data and make logical arguments.

Another example of a structured role-play situation can be found in a course on the Introduction to Electricity Markets taught by Professor Gregory Thurnher at Tulane University’s Freeman School of Business. Thurnher’s students in the MBA and master of finance programs are assigned different “power broker” roles such as electric utility analyst, utility dispatchers, power traders, and independent power producers (Brannon, 2010). The simulation and role-play activity is designed to closely approximate what the students might later experience in a utility and independent power trading and dispatch desk. The goal is to expose learners to real-world experiences that challenge even the most senior trading executives and energy professionals.

Such hands-on experiences using advanced professional trading tools is a new approach to understanding energy finance. It is also quite helpful for students to land positions in energy companies, specialist securities firms, banks, and different types of trading organizations.

**Skills and Objectives.** Includes spontaneity, creative expression, building intellectual arguments, assuming roles or identities, interactivity, backing up claims, comparison and contrast, data analysis, evaluation of data, appreciating other points of view, and forming arguments and rebuttals. Learners begin to grasp the skills required for different occupations or societal roles.

**Advice and Ideas.** Carefully select the content and topic of the online debate. Some content might be prepackaged from book publishers or designed by someone in your department or program. Naturally, students will need specific details on when to start, how to interact, and how to respond to each other. Be clear on student roles including the types and forms of interaction, the expected posting or participation behaviors, and the resources students are required to master or allowed to use. Instructors might assume one or more roles so as to model expected behaviors as well as monitor student progress. Consider assigning a final reflection paper at the end of the activity. You may also hold a debriefing session on the intended purpose and final results of the activity.

**Variations and Extensions.** Roles could be rotated on a weekly or per-event basis. Students can also script in new roles that they have researched and assume them. And prior students of the course could be offered cameo appearances in the role play or simulation, possibly participating weekly.

Alternatively, a different person can be specifically assigned the role of devil's advocate each week. This assignment of this role should be made by the instructor via a private e-mail; as it is a secret, the other students in the course will not immediately realize why someone finds an idea, comment, or solution problematic. The devil's advocate will take positions that she does not necessarily agree with but is doing so for the sake of argument. In effect, the devil's advocate is attempting to engage others in a conversation through argumentative discussion. As such, the technique tests the quality of original arguments and identifies weaknesses.

### **Key Instructional Considerations**

*Risk index: High*

*Time index: Medium*

*Cost index: Low to High (depending on the system used)*

*Learner-centered index: High*

*Duration of the learning activity: 1–2 weeks or as needed*

## **Activity 84. Online Study Group Challenges**

**Description and Purpose of Activity.** As noted above, the days of F2F study groups are fading fast in favor of online environments. Classes that break into study teams can help learners stay on task with course reminders and supports. Web resources like OpenStudy allow students to sign up for groups in such domains as finance, biology, chemistry, computer science, engineering, linear algebra, writing, and health sciences. They may

also be forming groups around topics from the MIT OpenCourseWare (OCW) project. In OpenStudy, learners who are struggling can get help from peers around the world.

Online study groups like OpenStudy are beginning to award medals for helping peers learn. Among these medals are achievement awards for those who are active participants in the open study dialogue. Such individuals are the ones who ask questions, answer questions, and socialize in the study group. Not surprisingly, they are also the ones who other users are “fans” of for being particularly helpful to them (Watters, 2011). The system also notes the number of days studied, people helped, and testimonials received. As a user amasses many fans, she can “level up” to become a hero and, if particularly helpful, perhaps a Super Hero. Users have ratings for their teamwork, problem-solving, and engagement skills. For each of these, they accumulate points to earn status as a Rookie, Hatchling, Neophyte, Learner, Helper, Champion, Mentor, Facilitator, Lifesaver, and Lifesaver Ambassador. Achievement medals can result both from support within a group on a particular topic as well as across the OpenStudy site as a whole. As of July 2012, there were over 100,000 students from 170 different countries and 1,600 schools in OpenStudy. That will make for many potential fans and heroes!

There are other tools that learners can use to form study groups, including Homework Help from Chegg, Grockit, and NoteMesh; the latter is a free service intended for college students that relies on wiki technology. With NoteMesh, students post lecture notes for specific courses that they have taken as well as make contributions to existing notes. Such team collaboration can foster community building and interaction among students. In contrast, with test prep tools like Grockit, a student from Houston can prepare for a college entrance exam with a student from Milwaukee, Wisconsin, Mumbai, India, or Aberdeen, Scotland (Koebler, 2011).

**Skills and Objectives.** Includes teamwork and support, sharing, competition, goal setting, interactivity, excitement for learning, appreciating other points of view, and the application of what was learned. Given that students are already in study groups, adding specific challenges or competitions offers possibilities for community building and identity.

**Advice and Ideas.** Instructors might form study group teams for a course or allow students to determine their own teams. They might also have learners form a class team in OpenStudy or NoteMesh specifically designed for online study groups. The advantage of OpenStudy is that it will accumulate points in terms of help offered within the system. Other systems like Piazza and Course Networking, mentioned in Chapter Ten, might also be used for such purposes; the particular advantage of these is that they can be used privately for a specific class or set of classes.

Learners may be challenged to answer correctly the greatest number of their peers’ questions or, at least, to offer the most responses or questions attempted. Although learning analytics are still somewhat primitive, course management systems will normally track the number of postings made by each student. Study teams could also be rewarded for highest overall average test scores among members of their team. In addition, instructors could post challenge questions, puzzles, difficult cases or scenarios, and quizzes for teams to answer. Consider expanding such activities beyond an individual class to multiple sections of the same class or to classes in other locations.

**Variations and Extensions.** Create some type of point system for different study group competitions during the semester. Instead of one challenge dictating the winner, there can be multiple opportunities for success and recognition. To foster a sense of learner-centeredness, students could also be solicited for possible challenge questions or problems to post across online study group teams.

### **Key Instructional Considerations**

*Risk index: Medium*

*Time index: Medium*

*Cost index: Low*

*Learner-centered index: High*

*Duration of the learning activity: Every week or as needed*

## **Activity 85. Timed Disclosures and Issue Voting**

**Description and Purpose of Activity.** In a F2F class, the instructor can pause at any moment and collect student opinions, votes, suggestions, and nominations. Often, however, the ideas shared are public. This sharing can lead to notions of groupthink with everyone agreeing with the more domineering individuals in the course. Worse still, when this occurs, shy, introverted, and less confident students in the course feel inhibited from participating fully in a particular task and in the class as a whole. However, as Susan Cain eloquently argues in her book, *Quiet: The Power of Introverts in a World That Can't Stop Talking* (2012), oftentimes it is the more introverted individual who has the most creative or insightful solutions. Despite years of being marginalized or overlooked in schools, there are many passionate leaders, acclaimed innovators, and strong contributors to society among the introverted population.

That is a serious educational problem. Fortunately, it is one that fully online and blended learning can address. With proper structuring, online environments can help shy or introverted students to feel more comfortable participating. When online, they can step into an asynchronous discussion forum, wiki, or personal blog—places where introverts find themselves in a safe harbor to tinker and refine their thoughts and ideas. Typos and even misconceptions can be edited or corrected on a virtual napkin such as an online notepad or in a wiki. Eventually, these ideas can be shared. At that point, some Web tools and pedagogical practices can still maintain the anonymity of all student postings and suggestions.

In Activity #12, detailed in Chapter Five, we discussed course polling and voting ideas as a means to enhance student interactivity and feedback. There are many aspects of voting and voting activities that we did not address in that chapter. For instance, students could be asked their opinions on an issue and the overall survey results may not be displayed until they vote or until a certain time or date has passed. This is referred to as a timed disclosure task.

Another activity not mentioned in Chapter Five is called the value line. Instead of a simple “Yes/No” poll, the instructor might select a “value line” activity. In such an activity, students mark their values or preferences of where they stand on an issue on a scale such as from “1” (i.e., Strongly Disagree) to “10” (i.e., Strongly Agree). Students indicate the degree to which they agree or disagree with a value statement. For example, “nuclear

power should be expanded” following the 2011 tsunami in Japan. Or perhaps the issue is “Gun control laws should not be changed” after the Aurora, Colorado, movie theater shooting on July 20, 2012 or the horrific Sandy Hook, Connecticut, mass murders of elementary school students and teachers in December of that same year. With a value line activity, students might be allowed to revote after hearing how everyone feels about the issue. When that happens, they must grapple with the differing points of view of others in the class. And such value lines can be privately or publicly posted online.

A few years ago, we experimented with a tool called the Q&A Forum in the Indiana University Kelley School of Business online MBA program. This tool restricted MBA students from seeing peer postings until they posted their own opinions in a discussion thread or on a virtual bulletin board. Tools like the Q&A Forum provide additional time and opportunities for students to contemplate their perspectives and articulate their ideas. As indicated, shy and introverted populations of students especially benefit from such an approach. At the same time, this feature helps all students to reflect on their learning and facilitate their own knowledge construction processes, independent of the thoughts and biases of others.

An option to this approach is to reveal participant comments, votes, and opinions at a preset time and date. With that approach, learners will not be biased by other points of view until they have had adequate time to reflect. Unlike a physical classroom which changes with each new class, the Web becomes an ideal vehicle for the collection, storage, and later revisiting and disseminating of such information.

**Skills and Objectives.** Includes empathy, patience, engagement, reflection, dealing with conflicting viewpoints, peer interaction, comparison and contrast, data analysis, evaluating data and situations, appreciating other points of view, and providing rationale. Fine-tuning listening skills (and patience) is also embedded in this technique.

**Advice and Ideas.** Determine whether the course management system or other technology tools used by your organization allow for timed disclosure or the revealing of information at a set time and date. If not, ask your technical support team how you could embed such activities. Allow ample time to design the questions, comments, and issues for your students to deliberate on. And be sure to debrief on the activity upon completion.

**Variations and Extensions.** The respective value line activities might be designed by the students enrolled in the course. If it is a cross-cultural activity, the value lines or issues for voting might be generated by students in other organizations or localities. Students might then rate or rank each other’s issues. When done, be sure to debrief on the activity and solicit comments from all sites involved.

There could even be several rounds of timed disclosure activities embedded in a particular task that build on one another in a recursive loop. For instance, value line or polling questions for teacher educators could be related to the traits or characteristics of ideal teachers. The next round may concern rating each of these favorite teacher traits. Next, they could suggest items for new teacher rating schemes. In each round, peer suggestions would not be reviewable until that person has posted or only after a particular time and date has passed.

## **Key Instructional Considerations**

*Risk index: Medium*

*Time index: Medium*

*Cost index: Low*

*Learner-centered index: High*

*Duration of the learning activity: 1 week or as needed*

## **Activity 86. Argument and Debate Mapping**

**Description and Purpose of Activity.** In Activity #66 in Chapter Ten, we discussed a number of tools for concept and mind mapping. Some instructional situations, however, may be more focused on argument and debate instead of a conceptual representation of ideas. If that is the case, the instructor may require students to use argument map tools to help learners put their chain of thinking on display. Today, using such tools as Argumentum, Argunet, Cohere, Compendium, and Truthmapping, users may be asked to explicate their reasoning and list the pros and cons of different problem solutions or resolution paths as well as the evidence, relationships between variables, assumptions, opinions, questions, and solutions. With Argunet, students can search for arguments as well as share, download, and present them. In Truthmapping, users read premises for different statements and then decide whether to agree with a statement or to critique it.

Such online assistants help to organize students' thoughts and ideas. Users can locate specific ideas or aspects to a debate through private as well as public tagging systems. Tools like Cohere allow for feeds from discussion tools, blogs, and other social networking resources. Ideas posted can be tagged as data, opinions, predictions, questions, solutions, and theories. And connections between ideas might be labeled by the user as "supports," "causes," "improves on," and "reminds me of." Clearly, online debate and argument mapping tools are becoming increasingly sophisticated.

With such systems, not only is a student's thinking explicated, but relationships between two or more ideas are made salient. Also explicit is the student's overall framework or conceptual structure for thinking on a topic. With these external representations, learners can better comprehend the strength of their arguments as well as their knowledge growth over time. Such argument and debate maps can be used for student presentations, debates, reflections, and other interactions.

**Skills and Objectives.** Includes interactivity, the visualization of ideas, dual coding of content, logic, chains of reasoning, causal relationships, comparison and contrast, data analysis, the evaluation of data provided, appreciation of other points of view, argument formation and rebuttals, backing up claims, and self-directed learning and resource exploration. As is apparent, in such activities many dimensions of critical thinking are addressed.

**Advice and Ideas.** Check the functionality of different argument and debate tools. Perhaps ask departmental colleagues as well as former students of the course for their opinions and suggestions about them. As you survey the landscape of available tools and resources, think carefully about how to embed such technology in your courses. Sketch out one or two curriculum activities as well as potential assessment schemes. Instructors might score such maps for their depth and breadth, causal connections and reasoning,

relationships drawn, logic, originality, accuracy, support provided, and overall structure. As a metacognitive or self-monitoring aid, students could craft a reflection paper on the concepts and processes that they mastered during the activity.

**Variations and Extensions.** Students can be required to write reflection papers on how their argument mapping structures are similar and different from those of other individuals or teams. Alternatively, they could be forced to combine argument or debate maps from two or more individuals, after which they would make a joint presentation.

### **Key Instructional Considerations**

*Risk index: High*

*Time index: Medium*

*Cost index: Low to High (depends on system used)*

*Learner-centered index: High*

*Duration of the learning activity: 2–3 weeks*

## **Activity 87. Challenge-Based Videoconferencing (e.g., World Affairs Challenges)**

**Description and Purpose of Activity.** International and global education consultant Jennifer Klein accurately points out that discussion of twenty-first-century skills became salient in schools in the late 1990s (Klein, 2010). These conversations are even more heated today. In particular, to be successful, young people need collaborative skills to work together across borders, both visible and invisible, to begin solving the immense world problems in front of them. As Klein accurately stated, global education enhances their capabilities to understand societal issues from multiple perspectives. In the process, they are developing what Merry Merryfield (2003) describes as “worldmindedness.”

One curriculum innovation Klein describes is called the “World Affairs Challenge.” In this approach, students are given issue-based topics of study such as poverty in the Sub-Saharan Africa, limited Internet access in Tanzania, and waterborne diseases in Cambodia. After conducting their research, students come together for a one-day tournament in Denver to present their research findings. After that, they are grouped with students from other schools to solve a different real-world issue, problem, or question. To apprentice such young people into a new field or discipline, prominent community leaders serve as guides and judges.

Such F2F sessions have many advantages. However, today with ePals, Round Square, iEARN, Soliya, and TakingITGlobal, mentioned previously, these same activities take place on the Web with tens of thousands of youth. In some cases, the use of Web conferencing and interactive videoconferencing bring K–12 as well as college students together who normally could not afford to travel (Lee & Bonk, 2013). In those online videoconferences, teams of learners can discuss and submit solutions related to pressing world problems.

Lee and Hutton (2007) discuss the many benefits of interactive video-conferencing for international education. For instance, students can hold extended, substantive, and collaborative discussions where issues are addressed in a deep and meaningful way. In effect, as Lee and Hutton note, videoconferencing can foster a greater exchange of infor-

mation between learners than would otherwise be possible. When properly structured, such videoconferencing and Web conferencing events can be a platform for integrating ideas across locations while simultaneously challenging students to generate unique solutions and predictions.

At the higher education level, learners have much to offer to global videoconferences. During the past two decades, Bonk and his colleagues have used interactive videoconferencing to foster student challenges across countries including Korea, China, Finland, Malaysia, Taiwan, Peru, the United Kingdom, and the United States (Lee & Bonk, 2013). In cross-institutional projects, he has had students jointly solve case problems, make presentations, write wikibooks, and critique each other's work (Bonk et al., 2009). The videoconference becomes the platform for meeting global peers and for discussing issues, posing challenges, and sharing final products. When students know they will have to submit their work to a global audience, they are willing to expend more time and effort perfecting it.

**Skills and Objectives.** Includes empathy, collaboration, leadership, inquiry research skills, knowledge synthesis, extensive feedback, appreciation of multiple points of view, deeper understanding of global, political, social, and environmental systems, cross-cultural engagement, self-confidence, cognitive dissonance, peer interactivity, reflection, learner involvement, deeper levels of information processing, responsiveness, resource sharing, and community building. This activity allows for much spontaneity and creativity.

**Advice and Ideas.** Extensive planning will be required for any Web conference or videoconference. Be sure to prepare students for cultural differences and displays of human sensitivity including the appropriate types and ways of interacting. Special training programs or curricula may need to be developed. Provide examples of potentially problematic expressions, questions, responses, content, and so forth. Some of these suggestions and examples may come from prior experiences with video or Web conferencing.

As Bonk and his colleague Mimi Lee at the University of Houston recently detailed, there are many procedures and issues involved in cross-cultural videoconferencing (Lee & Bonk, 2013). As they note, a topic and potential time for the session should first be agreed to by all participants. Once a tentative topic, time, and date are established, the Internet Protocol (IP) of each participating site must be shared and tested. They recommend that a script or agenda should be drafted, shared, and agreed to at least a week prior to the session. At the same time, a key lesson that they have learned is the importance of some spontaneity or memorable moments during any synchronous sessions. As Lee and Bonk (2013, p. 127) note, "no session can be entirely preplanned. From our perspective, the spontaneous nature of these sessions brings forth an increased sense of authenticity to these real time interactions."

To foster cross-site interaction and democratic participation, moderators at each location can monitor learner questions. Such moderators might also intervene to restate questions, summarize discussion, or interpret what someone from a remote site has said. If experts are being brought in, it is wise to have students discuss their articles and ideas in an asynchronous forum before and after the live videoconferencing session.

Each team or group of students could be allocated a set amount of time to present their research findings and related solutions to the problem. That presentation could entail

conducting a skit, holding a debate, forming an expert panel, or using interactive polling tools with the audience. Employees of local organizations with a background in global development or cross-cultural collaboration might serve as judges (Klein, 2010). Awards can be given for the most innovative problem solutions, most engaging presentations, most insightful questions, and most creative or spontaneous responses, among other areas or categories for potential recognition.

**Variations and Extensions.** Instead of instructor-created challenges, the challenges could be posed by a manager of a government organization, director of a nonprofit organization, or founder of a social cause. The best solutions could be posted on the sponsoring foundation or nonprofit website. Previous students of the course as well as experts in the field such as book authors, researchers, practitioners, and leaders, could serve as judges of such challenges and competitions.

### ***Key Instructional Considerations***

*Risk index: High*

*Time index: High*

*Cost index: Low*

*Learner-centered index: High*

*Duration of the learning activity: All semester or as needed*

## ***Activity 88. Digital Media Competitions***

**Description and Purpose of Activity.** Competition often spurs learning excellence. The explosion of collaborative learning technologies combined with cheap online storage, has made it possible for students in fine arts, fashion design, new media, instructional technology, and telecommunications departments to engage in cross-institutional collaborations as well as intense and highly publicized competitions. Today, students in such departments can engage in online design competitions that bear significant prizes or recognitions. Internationally recognized experts can judge the products and lend timely and insightful feedback. When such a learning apprenticeship occurs, learners become energized about their field of study; in addition, new social networks and relationships are formed.

Since the late 1990s, our friend Rick Bennett in the College of Fine Arts at the University of New South Wales has experimented with many forms of digital interactions. Much of this work has centered on an innovative collaboration concept and technology that he called “Omnium.” His work with Omnium has resulted in a series of online global creativity studios or classrooms (Bennett, 2011). The fully online international projects that Bennett has coordinated have focused on the creative design process within small teams of artists, graphic designers, and digital media enthusiasts interested in online studio art, photomedia, graphic design, and visual communication. Initially, Omnium project participants were mentored by international panels of professional designers, professors, and digital technicians located in such countries as the United Kingdom, South Africa, Hong Kong, Singapore, Germany, Canada, Puerto Rico, Australia, and many other parts of the world. Omnium provided the shared space for all this collaboration and meeting of the minds to happen.

As Rick Bennett has shown, we live in an age when students from geographically distant art and design studios can work together on intriguing projects with a host of tremendously creative results. Systems like Omnium can break down the various cultural, social, physical, and technical barriers that such students would have faced prior to the Web. Today, these students can log in and watch lectures, check out image galleries, participate in online discussions, share resources and files, check calendars and team notices, and submit or review work in pin-up walls of best artwork. Users' in-process work and completed products can also be commented on by peers as well as international panels of experts (Martini, Harrison, & Bennett, 2009). Projects rated the highest in competitions are posted to an online visual image gallery by Omnium personnel. With such incentives, online participants in the various Creative Waves competitions strive to have the most creative and engaging final artworks to share. Bennett's students have joined forces with students in the health sciences to create visual awareness campaigns that highlighted issues related to specific health concerns such as HIV and malaria for small rural villages in Kenya as well as issues concerning waterborne diseases and diarrhea in Uganda. Clearly, collaborative art and design with Omnium can lead to significant social action and potential change.

**Skills and Objectives.** Includes creativity, empathy, societal perspective taking, visual literacy skills, awareness of social issues, design, planning, idea refinement, social networking, expert and peer feedback, learning in a context of use, and collaboration and teamwork. Rewards from winning digital media competitions and other recognitions, such as having work posted to an online media gallery, last a lifetime.

**Advice and Ideas.** Determine the type of digital media project that is appropriate for your content area or discipline. Allowing for student input and choice in this process can ensure that the project(s) you set up will be relevant and of interest to them. In many content areas, a digital movie or online book chapter may serve as a final product that best represents student learning. Consider potential judges. Then, before you contact them, ponder the suitability of the forms of interaction and kinds of feedback that these judges can provide to help your students enhance their work and add to their understanding.

Think carefully about the design of any competition or collaboration concerning student work. Train students as well as judges about your expectations in terms of feedback, interaction, and sharing. Naturally, they should focus their feedback on product improvement without personally attacking the individual artist or team. Before you start, set up target milestones, major phases, and deadlines for the designs or products. Perhaps include simple calendar or scheduling tools to keep participants aware of key moments in project planning.

Document the results. For instance, consider collecting student questionnaires as well as qualitative feedback throughout every stage of the project. You should also conduct both formative and summative evaluations so as to assess any technology or task limitations. At the same time, there may be culturally sensitive issues that arise during the project in terms of timing, language, customs, and so on to monitor or address.

**Variations and Extensions.** Instead of entering one's own work, learners might nominate the work of their peers or perhaps even of experts in the field. Students could also serve as online judges in the competition.

## Key Instructional Considerations

*Risk index: High*

*Time index: High*

*Cost index: Low to High (depending on tools employed)*

*Learner-centered index: High*

*Duration of the learning activity: 3–4 weeks or during entire course*

## Activity 89. “Best of” Nominations (e.g., Quotes)

**Description and Purpose of Activity.** As evident throughout this book, there are countless of pages of Web content with potential educational uses. Nevertheless, it can be overwhelming for instructors to find high-quality material online. They can search open educational resources such as the OER Commons and online repositories like Connexions, MERLOT, and Jorum. Resources found at MERLOT, for instance, are often peer evaluated and rated. However, journeys into any learning portal can sometimes lead to many hours of casual browsing.

There are many options to conducting a time-consuming search through online materials. For instance, one can turn to colleagues or experts for suggestions of high-quality online resources. Alternatively, one can read emerging technology reports and forecasts such as the Horizons Report from the New Media Consortium and EDUCAUSE (Johnson, Adams Becker, Cummins, Estrada, Freeman, & Ludgate, 2013). However, your best resource may actually be the learners in your classroom. Your students, better than anyone, know what they like and what will motivate them to learn. So ask them. Learners could be charged with finding the best quotations, articles, speeches, papers, news reports, animations, simulations, blogs, or podcasts in the field. They might be assigned specific theories, terms, principles, authors, researchers, and so forth, to explore.

Learners can submit the content that they have found to a course resource library, discussion forum, or wiki. Consider holding a contest or tournament to find the very best content. These types of competitions can energize learners to conduct an extended search of available content. In the process, they will be supplementing their learning of the course material and extending far beyond it.

**Skills and Objectives.** Includes information search, feedback, involvement, student autonomy and choice, reflection, comparison and contrast, self-directed learning and resource exploration, content review, and identification of key concepts. This activity requires that students explore course content well beyond any assignment or instructor-led activity.

**Advice and Ideas.** There are many resources for students’ “best of” search. If they are in need of a quotation, they might use Wikiquote, BrainyQuote, Goodreads, or a biography website to find such material. Alternatively, they might use online tools like Tricider to nominate, review, discuss, and rate the best books, ideas, or researchers in the field. Experts in the field could also help evaluate and rate the quality of the content. The “best of the best” content would be saved for use by students in future versions of the course.

In addition to social voting or ranking tools like Tricider, instructors could create a course wiki for students to nominate the top course content. If the task is to come up with the best quotes for people, topics, or issues, the headings and subheadings for each

should be inserted prior to the start of the activity. Students should include their names or initials on every quotation they submit. Next to each quotation might be a link to a rating form or poll for students in the course as well as external guests to rate it. The content resources accumulating the highest votes would be considered the winners of the quotation competition. You may want to develop a course “hall of fame” for annual winners of this competition as well as for the person who originally nominated each content object. Course instructors may consider handing out gold, silver, and bronze medals as in the Olympics, or different kinds of trophies or awards.

It is vital to establish procedures for such competition submissions and judging. For submissions, instructors can conduct a review prior to posting to the Web as learners may have selected something that is inappropriate, redundant, lacking in sufficient functionality, or even no longer available. In addition, students will need to know where, when, and how to submit the content. In terms of judging, a set of quality criteria can be generated and shared with the class. For example, dimensions judged or rated may include the functionality, richness of the media employed, currency, relevance to the course, extendibility beyond course content, and uniqueness. Solicitation of external judges should take place at least a few weeks prior to the start of the activity. Such judges may even be former students of the course. Given all the steps, consider generating a learning scaffold or guide sheet for the entire activity.

**Variations and Extensions.** An alternative or extension here would be team collaborations to find the best video, quotation, paper, book, and the like. Such collaborations could take place across two or more courses. Of course, students in other environments, cultures, or learning situations may have access to totally different content and resources, thereby significantly extending the possible results.

### **Key Instructional Considerations**

*Risk index: Medium*

*Time index: Medium*

*Cost index: Low*

*Learner-centered index: High*

*Duration of the learning activity: Anytime as needed*

## **Activity 90. Online Games, Puzzles, and Quizzes**

**Description and Purpose of Activity.** Technology research firm Gartner predicts that more than 70 percent of the top 2,000 global organizations will use gamified applications for training and performance by 2014 (Snider, 2012). As shown by people who play mobile or online games, people are motivated to see their names and achievements listed on leaderboards in a mobile app. They are also motivated to pass a particularly difficult level or challenge within a game. Games offer challenges, interesting stories, feedback on performance, and tangible incentives and rewards (Lauby, 2012).

These same principles are finding their way into education in various online and mobile games (Miller, 2012). Besides being listed in leaderboards, learners could earn badges, trophies, certificates, and newsletter recognition. Quizzes, flashcards, practice questions, and other interactive online tools can test students’ learning while they’re playing

the game. The basic premise is that learning can be fun and rewarding when packaged in a gamelike format.

As noted in Chapter Seven, most of us likely have at least one friend or family member who is addicted to social games such as Words with Friends, Farmville, CityVille, and Angry Birds. Of course, there are tens of thousands of educational games on mobile applications, especially at the K–12 level, for math, science, and English. These games can be used to prepare students for exams and quizzes. Among them are simple crossword puzzles, word searches, mazes, hangman and jeopardy games, and wheel of fortune. Many online sites like Puzzlemaker from Discovery Education as well as EclipseCrossword offer free templates to design your own game or challenge. Increasingly, educators will be embedding educational games and puzzles into their courses for learner review and challenge. Challenge games will be one way to hold students accountable in MOOCs with thousands of students as well as in more restricted traditional courses with just a dozen or two enrolled.

**Skills and Objectives.** Includes feedback, content review, challenge, skill evaluation, information retrieval, discrimination, insight, entertainment, and suspense. An online game show could serve as a screening or course preparation tool prior to enrolling in a class.

**Advice and Ideas.** Review your content for topic areas, terms, or theories that students often have difficulty mastering or that are critical to later learning in your course or in follow-up courses. Search existing open educational resources for challenge games or quiz shows in your discipline. Talk or write to colleagues for advice and suggestions.

If your search comes up empty, perhaps meet with available technology support personnel to discuss your needs. Before you do, sketch out a preliminary game design or plan. Alternatively, you could rely on basic crossword puzzlemaker tools noted in the Web resources associated with this chapter. You may find yourself creating an engaging crossword puzzle quiz for every week, unit, or chapter. Be sure to gather both formative as well as summative evaluation data on their effectiveness, and consider presenting the results at teaching- and learning-related conferences and events.

**Variations and Extensions.** Not only can instructors create games or use those that they find online, but they can ask learners to design a set of alternative questions or issues, or perhaps an extension of the game. Students could also be asked to design their own course challenge activity or game for others to take. The person or team building the best game design could be awarded bonus points or an option to drop a course assignment.

One of our students created a fascinating identity challenge game. When designing the game, she used technologies like Adobe Captivate, MacBook Webcam, Adobe Premiere Elements (for video editing), and several YouTube and Vimeo videos found online. In her game, the user had to identify statements, questions, or issues associated with particular people studied in the course. The game questions and people discussed followed the order of the weeks in the course. With each correct answer, the game player accumulated points. Online audio and video files from many of the experts were incorporated.

Clearly, challenge games and assignments to build challenge games are among the most powerful educational tools today. Students rehearse much of the content across the entire semester from this one exercise. In such an activity, content is meshed with technology in a highly interesting and interactive manner.

## **Key Instructional Considerations**

*Risk index: High*

*Time index: Medium*

*Cost index: Low to High (depending on tools used)*

*Learner-centered index: Medium*

*Duration of the learning activity: 1–2 weeks or as needed*

# **Final Reflections on Tension**

As shown in this chapter, a tad bit of tension or conflict can lead to intensive effort to want to know more. There are many ways to spark such flames and nudge learners into a state of uncertainty or sense of not being confident about what they currently know or believe. Such bewilderment, however, can vary in intensity from a slight sense of puzzlement to complete frustration.

Local and international news is alive with tension every day. Learners within a particular class or across the world can now debate each other about such news virtually and perhaps even brainstorm viable solutions that can add to the general discourse on a topic. Such debating, role play, and discussions of controversial issues can also foster respect and deeper insights into diverse cultures and norms. As our colleague Mimi Lee (2007) at the University of Houston points out, these types of activities motivate students and deepen their intercultural awareness. When learners begin to understand how ideas of “difference” are constructed, they simultaneously better understand themselves and others. Learners in remote or rural settings can engage with those in highly dense parts of the world. And when they do, they may discover that issues that seem controversial or critical to resolve in one region of the world have not even been encountered or discussed in another.

The ideas and activities here are a starting point. Each online and blended course should build in ample doses of challenges and controversies to wrestle with. Decades of research into collaborative and interactive learning technology has shown that virtual collaboration among team members offers unique incentives as well as supports for a successful and engaging learning environment (Bonk & King, 1998; Koschmann, 1996). Now combine such collaborative endeavors with competition across teams or classes of students to come up with the most innovative or useful solutions. When you do, the standards for success will be elevated even higher.

Take stock of the resources, content, technologies, and student backgrounds in your particular environment that might be useful in fostering tension and challenge. You or your departmental colleagues may have connections to people in other parts of the country or around the world who might want to engage in an activity such as structured controversy or a world affairs challenge. Depending on the situation, you may want your students to assume a set of particular roles or personalities when doing so. Or perhaps your learners will vote to have some sort of digital media competition. Increasingly, we will see educators taking advantage of Web technology for such international competitions and collaborations. As an example, they could pose some type of online study group challenge or competition to see which teams can offer the most support or solve the most cases or problems.

We have covered much territory related to online motivation and retention in the first twelve chapters of this book. However, we are not quite done. We have the granddaddy of motivators left to address—namely, learner goals, preferably the kind that yield some type of product. We humans, by our very nature, are goal-driven creatures. We need a vision or target to shoot for or an overriding goal to work toward. You do. I do. Your students do. For some, it becomes a personal quest for a glorious ending product. And in fully online and blended learning environments, such goals are particularly vital because they help maintain learner focus when there is no one in the immediate environment to structure and provide feedback on student learning.

In Chapter Thirteen on “Yielding Products,” we excitedly address the final principle of the TEC-VARIETY framework. Some may view this as the pinnacle moment of the book. As you turn the pages, you will find ideas related to learner creation of products and associated ownership and feelings of success about them. You will notice that this tenth principle closely corresponds to the second wave of Web-based technologies, such as podcasts, wikis, and blogs. It is one area that you may continue to experiment with long after many of the technologies mentioned in other parts of this book fall out of favor and are replaced by new ones. We look forward to hearing about the types of products that your learners have designed and the unique pedagogical strategies you employed to get them there.

# Praise for *Adding Some TEC-VARIETY*

*“There are books on theory and books on practice, however this is the best volume ever written for using learning theory to inform effective practice. This book is a tour de force for creating an environment where students not only succeed in online learning, but they achieve excellence as well.”*

—**Charles (Chuck) Dziuban**, Director, Research Initiative for Teaching Effectiveness (RITE), Professor Emeritus and Inaugural Pegasus Professor, University of Central Florida, and Sloan-C Fellow

*“An excellent book from world leaders in the field that will be of great value for educators and designers. Presents concrete examples grounded in solid ‘practical’ theory.”*

—**Charalambos Vrasidas**, Executive Director of the Center for the Advancement of Research & Development in Educational Technology (CARDET), Associate Dean for eLearning, University of Nicosia, Cyprus, and author of several information technology and distance learning books

Based on 10 theoretically driven and proven motivational principles, *Adding Some TEC-VARIETY* offers 100 practical yet innovative ideas to motivate online learners and increase learner retention.

## What motivates?

1. **Tone/Climate:** Psychological Safety, Comfort, Sense of Belonging
2. **Encouragement:** Feedback, Responsiveness, Praise, Supports
3. **Curiosity:** Surprise, Intrigue, Unknowns
4. **Variety:** Novelty, Fun, Fantasy
5. **Autonomy:** Choice, Control, Flexibility, Opportunities
6. **Relevance:** Meaningful, Authentic, Interesting
7. **Interactivity:** Collaborative, Team-Based, Community
8. **Engagement:** Effort, Involvement, Investment
9. **Tension:** Challenge, Dissonance, Controversy
10. **Yielding Products:** Goal Driven, Purposeful Vision, Ownership

This is the book you need to grow your online teaching repertoire in innovative ways that will grab your students' attention and imagination. **Additional book resources as well as a free e-book are available for download at <http://tec-variety.com>.**

**Curtis J. Bonk, PhD**, is professor in the School of Education, adjunct in the School of Informatics, and associate faculty member in the Cognitive Science program at Indiana University. He is also the author of *The World Is Open* and several other books.

**Elaine Khoo, PhD**, is a research fellow at the Wilf Malcolm Institute of Educational Research (WMIER) based in the Faculty of Education at The University of Waikato, Hamilton, New Zealand.