SoTL in Online Education: Strategies and Practices for Using New Media for Teaching and Learning Online

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Abstract
Over the past two decades the research and dissemination of the scholarship of teaching and learning (SoTL) in higher education has sought to improve the quality of the academic experience in face-to-face courses, online classes, and even on virtual reality campuses. Many scholars, including the authors of this essay, have utilized this public discourse to help inspire their practices and then subsequently contribute to the SoTL literature and research. What ideas from the SoTL literature did we find useful for using new media when teaching online? What new strategies and practices have we added to our teaching repertoire? How have we incorporated SoTL literature in our classes? We try to answer these questions with examples and suggestions based on our work of over fifty years of combined experience in Distance Education and teaching with technology in the classroom.

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SoTL in online education

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Abstract
Over the past two decades the research and dissemination of the scholarship of teaching and learning (SoTL) in higher education has sought to improve the quality of the academic experience in face-to-face courses, online classes, and even on virtual reality campuses. Many scholars, including the authors of this essay, have utilized this public discourse to help inspire their practices and then subsequently contribute to the SoTL literature and research. What ideas from the SoTL literature did we find useful for using new media when teaching online? What new strategies and practices have we added to our teaching repertoire? How have we incorporated SoTL literature in our classes? We try to answer these questions with examples and suggestions based on our work of over fifty years of combined experience in Distance Education and teaching with technology in the classroom.

Introduction
As the literature about the scholarship of teaching and learning has evolved, this growing body of knowledge gives visibility to research, seeds ideas, germinates publications and provides, popularizes and promotes positive practices in education. In turn, it has generated further research, additional scholarly publications, active, cross-discipline collaboration and distance networking—leading to changes in teaching and learning on campus and online, which is the focus of our paper (Cambridge, 2004; McKinney, 2004; Prosser, 2008; Wegmann & McAuley, 2009)

We both teach online and face-to-face courses in Schools of Education in the US and Israel, and have had the privilege to teach in diverse contexts around the globe, from the Arctic to the equator and from the new world to the old. The implementation of the online component is done mainly through asynchronous textual technology. In asynchronous learning settings, students and instructors are separated by time and place. The asynchronous delivery mode provides flexibility and convenience for both teachers and learners as it allows for participation at any time and from any device that has an internet access (Bates & Poole, 2003). Having said that, based on Media Richness Theory (Daft & Lengel, 1984), and our own experiences, the main drawback of the text—based format is that it is a limited communications medium that brings little new to online educational interactions. Consequently, in addition to asynchronous instruction we both use multimedia applications that include features such as multipoint audio, screen sharing and video as part of the synchronous component to our courses. These
applications tend to generate more frequent teacher-student interactions, and student—student interactions as well more student involvement in e-Learning activities.

**The Need for New Media: Evidence from the Field**

In his article "Taking Learning Seriously," Shulman (1999) examines the teaching-learning process from an unusual perspective, searching for causes of students' failure to learn rather than factors that promote successful outcomes. Instead of looking at instructional practices that make a classroom environment successful—what Dewey (1938) called educative—Shulman explored pathologies that are miseducative (Dewey, 1938), factors that inhibit growth and work against the best efforts of teachers to teach, learners to learn, and both groups to communicate more effectively with each other.

Shulman (1999) identified four primary learning pathologies calling them amnesia, the all-too-familiar forgetting of school curriculum and experiences; fantasia, the absolute certainty that one's knowledge about something is true—when it really isn't; inertia, the amalgamation of isolated—inert—ideas that go nowhere with no meaningful connections to anything else a student knows; and nostalgia, a belief that the successes of the past are tried and true and should not be ignored even if, upon critical examination, they were not so successful.

"Taking Learning Seriously" (Shulman, 1999) became an essential reading in our courses both online and on-campus. Students, most of whom are classroom teachers, were asked to examine their own experiences for any evidence of these pathologies, either in their roles as public school teachers or as lifelong learners and university students. Which pathology, if any, did they feel to be the hardest for them to overcome? Which ones were most likely to affect students in their own classes?

Students routinely offered personal examples for each problem area, amnesia—"did we really learn that in this class?" Inertia — "Mbabane is the capital of Swaziland. So what?" Nostalgia—"You want us to try that new reading program? We did it twenty years ago and it didn't work." Fantasia — "The Great Wall of China is the only man-made object visible from space or with the naked eye." However, it was fantasia that usually emerged as the most intriguing, imposing, inscrutable and insurmountable pathology because if you don't know that what you know is incorrect, then how can you ever correct it?

Using various SoTL sources including Shulman (1997) and Daft & Lengel, (1984) as guideposts, we have been focusing on several issues identified in the articles and are developing ways to address some of the major concerns they raised. We believe this is what participating in the scholarship of teaching and learning is all about and a fruitful way to improve classroom practices.

**Strategies and Practices**

There is ample evidence in research literature that using media and multimedia for teaching online is becoming a standard instructional practice and the dissemination of that information is being facilitated through traditional methods such as books and journals as well as through new media sources such as digital communications, electronic databases, CD-ROMs, DVDs and, of course, the internet. There are many texts that demonstrate how
to effectively use technology including those by Bates & Poole (2003), Borthwick & Pierson (2008) and Clark & Mayer (2008) among others. Clark and Mayer's book *e-Learning and the Science of Instruction* (2008) has been particularly useful for teaching students how to design materials for mediated instruction while avoiding practices that can foster any of Shulman's pathologies. Their book draws upon recent e-Learning research and identifies useful principles that will guide teaching and multimedia practices systematically rather than having them occur haphazardly, as is often the case. Moore and Kearsley (2005) argue that providing more media alternatives for online courses more effectively supports achieving the learning goals (2005). The hybridization of the asynchronous textual mode with rich multimedia and web 2.0 technologies might well serve this purpose.

The term "Web 2.0" is commonly associated with web applications that facilitate interactive information sharing, interoperability, user-centered design and collaboration on the World Wide Web (http://en.wikipedia.org/wiki/Web_2.0). We believe that incorporating the concept of Web 2.0 into our courses, both on—campus and online—will help elicit learner participation beyond the standard textual expectations and engage them more as active learners. Some Web 2.0 applications are open source, free and available for consumer—level users, including programs such as Audacity (for audio podcasts and tutorials) and Gimp (a powerful graphics editor). Other freely available applications we've used include Screentoaster (for taking and editing video), Wink and Screenr (online screen recording) and VoiceThread (for collaborative audio and graphical presentations). The content generated from these programs can be uploaded to YouTube and other social networking sites or embedded in other online content.

**Simple Starting strategies**

We start our semesters with a few overall strategies to guide how we use new media and technology for our online courses. One key strategy is to make sure that students use Web 2.0 technologies, when appropriate, as much as possible. In fact, in some cases they use it as much as we do, though not necessarily for learning purposes—so they will discover the creative possibilities of these programs as well as learning to use powerful instructional tools for the digital classroom. We believe that the proliferation of Web 2.0 websites has made modern mass multimedia a multiuser option for the average student, so much so that the techniques, products and processes that were formerly the purview of computer scientists only a few years ago are now available to everyone for just signing up, logging-in, participating, interacting, uploading, embedding and publishing.

Another similar strategy is to purposefully guide students’ use of Web 2.0 applications and facilitate their skill development as a standard feature of all our courses, regardless of the content. To support this effort we have created both simple and more advanced skill—based technology tutorials and use sites such as YouTube, Teacher Tube and our own websites to post them for easy student access. This is also how we model using online multimedia to teach any subject online. As a bonus, we find that many university colleagues in other departments are taking notice of how well students are responding to our efforts and these faculty would like to do the same types of activities in their own classes. As a result, both authors have been training colleagues to use new media and Web 2.0 for instruction.

A third strategy we utilize is to provide excellent models of mediated instruction to raise
students' awareness of our expectations and make them cognizant of their own expressive possibilities. We don't tell our students about technology, we show them! This keeps us on our toes, and up-to-date, so we can include the latest innovations in our own teaching repertoire.

An equally important strategy is to demonstrate to students how they can provide input and details for requesting help whenever they need it. Instead of saying "this didn't work, we show them how to tackle problems wherever they are. For example, by taking screen captures or screen recordings of what they are seeing in front of them they can get—and give help—when its needed. We don't assume that students know how to request assistance with Web 2.0 programs because it is easy to assume that if there are no requests for help that there are no problems. On the contrary, we go out of our way to encourage students to try new things, make mistakes and learn from them. If they need help, we show them how to describe their problems and make it easier to either resolve the issue themselves or receive the assistance they need to get unstuck.

Pathology Preventing Practices

Based on SoTL and dialogues online and on-campus with students, we adopted several strategies to counteract amnesia, inertia and fantasia, when teaching online. We decided to include much more video, animation and screen—recording support for our courses so, hopefully, students would form better mental models and learn the appropriate facts and ideas correctly rather than having them fill in the blanks and make connections that often resulted in fantasia. While not a perfect solution in all cases, student feedback suggests that the increased use of multimedia does help them learn the curriculum content and technology skills quickly and correctly. In fact both authors will often answer a student's request for help with a screen recording response that not only tells students to what do, but shows them step-by-step as well.

Strategies for combating fantasia that have emerged over the years utilize a purposeful instructional design process to develop methods and materials intended to prevent fantasia from occurring and engaging it when it does. For example, for Dr. Sponder students read and use Clark and Mayer's (2008) e-Learning text to develop materials for their own courses that include well-designed materials using proven principles of e-Learning.

A few additional suggestions to combat Shulman's pathologies include the following:

- To combat fantasia, be rigorous in designing materials and lessons and don't include information that could cause students to learn facts or concepts incorrectly. Many concepts are picked up in later grades and fantasia could inhibit future learning as well. This could be something as small as spelling, capitalization or the placement of text and graphics on the screen. It could also involve presenting information that is history—it was true at one time—but not current knowledge.

- To prevent amnesia, make sure to link information to ideas and concepts a student knows or to those that are meaningfully associated. In addition, we both record our frequent synchronous multipoint conferences with students so that students who miss the meetings, or live several time zones away, can still learn from them.
Inertia can be overcome through a project-based learning approach using projects that ask students to design activities and materials for their own use with Web 2.0 tools such as Google Docs, Vokis, Voicethread, YouTube, Webspiration and other similar sharing applications.

All the pathologies are confronted when using students' reflections through Personal Learning Blogs that serve to crystallize thinking, or creating a wiki as a shared knowledge base, i.e. writing a class glossary or a lesson transcript. These are two practices we find useful for combating amnesia, inertia and fantasia.

Final words

The Scholarship of Teaching and Learning is greatly enhanced by the creative, cooperative and collaborative communication systems already available as mainstream activities on the World Wide Web. As educators who teach online, and on campus, we have been utilizing the growing opportunities available with Web 2.0 resources for both teaching and learning, cognizant of the role that theory and research play in those processes.

References


