Story-Based Teaching and Learning: Practices and Technologies

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Stories and Learning

Stories are an ancient method of teaching and learning that can be used in new ways through evolving media. At their core, stories are a representation of a series of events. They have been considered a mode of thought (Bruner, 1991), a communication strategy, and a form of expression. There is also strong evidence that suggests stories are an important tool for learning (Brown, Collins, & Duguid, 1989; McLellan, 1996). As psychologist and interactive designer Donald Norman states (1993), stories have the uncanny ability to “encapsulate, into one compact package, information, knowledge, context, and emotion” (p. 129).

With the rapid evolution of digital technologies, we are able to share and learn from stories in new ways. For instance, current computing applications make the production of a video possible for anyone with a common computer and some guidance. Through the use of existing technologies many of the storytelling conventions previously standardized by professional filmmakers can now be added to or adapted by students and faculty. Students can now learn by listening to and telling 21st century stories.

This paper will highlight three emerging story-based teaching and learning practices in higher education that utilize various technologies. Representative examples are offered that have been observed on the campus of the University of Wisconsin-Madison.

Digital Storytelling and Learning

According to Hilary McLellan (2006), digital storytelling operates on a basic premise: “it is designed to help people tell stories from their own lives that are meaningful to them, and to their audience, using media to add power and resonance, and to create a permanent record” (p. 27). Digital storytelling is the art of crafting a personal story using a variety of digital tools and software applications. These digital stories are typically short, running at about 3-5 minutes in length or around 300 words. Authors usually create stories that are personal, yet about themes that are universally relevant.

When used for educational purposes, digital stories can impact many learning goals. One common method in higher education is to have students produce their own digital stories as a class project. When assigned in relation to specific subject areas (e.g. history, physics, psychology), digital stories become a lens through which to examine elements of the course concepts. Digital stories can also promote skills including visual literacy, multimodal literacy, technology literacy, group collaboration, creative thinking, information management, and problem solving. Digital stories also encourage self-reflection, creativity, individual initiative and building collaborative structures. Students can improve many of these skills with interest because of what may be the key ingredient of digital storytelling – the challenge of creating a story that has personal meaning.
Story creation includes a variety of learning activities (i.e. writing, collaboration, media production, research, communication). The strategy you use to assess student-produced stories will depend on your course learning objectives. One option is to evaluate the assignment based on the elements of the story – elements like point of view, script, audio, pacing, videography, and economy. Another option is for faculty to assess student’s ability to present and articulate their understanding of course concepts. Furthermore the assessment of students teamwork and use of resources is yet another trait to assess. Determining which assessment traits align with your course learning objectives will determine how to best assess student produced media assignments.

**Interactive Narratives and Learning**

Another ancient method of teaching and learning is found in gameplay. Dissimilar to stories, games might be summarized as experiences bounded by rules in which participants have goals and determine the outcome (Juul, 2003). Interactivity is what sets a game apart from a story. These two practices borrow from one another in wonderfully messy and interesting ways. One game-like story that borrows game elements is often labeled the interactive narrative.

Interactive narratives are interactive story systems designed for readers to exercise agency and determine the ending. Similar to the popular “Choose Your Own Adventure” books, interactive narratives work on the assumption that agency increases reader engagement. As it turns out, this combination of story and game elements is hard. Designing authentic-feeling choices that lead to believable outcomes is a demanding job that requires large amounts of content generation and systemic authoring.

To host these narratives digitally, many educators are turning to common computing technologies such as slideshow software. Software like PowerPoint or Keynote can support the linking of slides for the branching of narratives. A player can make a decision on a given slide and then traverse through one of many authored paths that will lead to one of many outcomes. Drawbacks of using this software include the void of a coding parser or artificial intelligence that would react to user input and facilitate point systems to guide the experience. All user decisions must be determined and accounted for beforehand. Yet, slideshow software provides a rich testbed in which to experiment with creating this challenging type of text. PowerPoint is so ubiquitous in use that finding technical support is relatively easy, and finding ways to import rich media is usually possible.

Within many fields of higher education, those that use case studies to teach professional practice (e.g. health, law, education, business) can find enhanced learning potential through interactive narratives. These texts simulate inherently focus on decision-making and problem solving. There is a clear benefit in allowing students to make plausible, high-risk decisions in the low-risk environment of playing a game. Student players can make decisions and proceed to (vicariously) experience relatively authentic consequences. Interactive narratives also encourage empathy and interpersonal skills by prompting players to consider how other characters might feel or react to situations and player choices. In a classroom environment, students can then reflect on their experiences through class discussion.

In addition, students can learn by designing interactive narratives. For instance, an Educational Leadership graduate course at the University of Wisconsin-Madison challenges students as they collaborate in groups to adapt open-ended case studies into interactive narratives. Where students used to read through one decision path of a printed case study, they can now go in depth as they analyze important decisions the protagonist faces. The many alternatives of each choice and their consequences are weighed – thus encouraging students to engage in actual professional decision-making processes.

Interactive narratives have great potential to impact teaching and learning practices. This story and game based medium allows students to play and design texts that foster professional practice skills, like...
Mobile Media and Story-Based Teaching and Learning

Marshall McLuhan’s (1964) argument that the medium is the message is illustrated by the way mobile technologies can change many teaching and learning possibilities. Ongoing research has been done in the last decade by educational researchers at universities like MIT and the University of Wisconsin-Madison on what kinds of learning are supported by engaging with spaces using handheld technologies (Klopfer, 2008). Mobile devices like the iPhone support a variety of ways to engage with spaces and artifacts that surround us.

One example is a research experiment taking place at the University of Wisconsin-Madison. This experiment, “ARIS” (arisgames.org) is an application for smartphones that supports the authoring of place-based experiences for learning. Currently focusing development on the iPhone, ARIS integrates features such as GPS-supported maps, QR-codes, and photo capturing. With these capabilities, one can create simulated objects and environments for learners to engage with.

From a story-based learning perspective, tools like ARIS make it possible for teachers to design experiences situated in specific places. Several learning possibilities exist. One is that students could annotate their world – meaning students could layer virtual text, images or sound onto a location. QR codes are one way to achieve location specificity for the attached annotations. The subject matter could be subject specific, such as historical information, or environmental knowledge.

Secondly, mobile stories that are game-like can support learning skills like hypothesis testing and argumentation. For instance, in the mobile learning game Mad City Mystery (Squire, 2007), players take on the role of an investigator whose goal is to hypothesize and discover whether a recent death in the community was related to water issues with Lake Mendota. Players engage in investigative activities, which can provide a rich context for learners can draw upon in later classroom discussion.

Mobile media is a rapidly evolving media that is introducing a new way to design story-based teaching and learning opportunities. As mobile technologies continue to rapidly evolve, educational researchers continue to conduct research experiments. Doing so will reveal what is possible when people can augment their experience in a place with story-based mobile media.

Digital storytelling, interactive narratives, and mobile media are all practices and mediums that support story-based learning and teaching. Because stories are such a universal mode of thinking and learning, it is exciting and useful to explore new ways technology can exploit it’s affordances. We hope that traditional and new modes of story-based learning will continue to be explored.

References


**Author Summaries**

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