

# Digital Initiatives

Office of Innovation  
and Technology  
Spring 2017

## Enhancing Classroom Instruction with Online Simulations

Scenario-based app combines benefits of live interaction and personalized learning to provide digital testing ground for leadership skills



As a former school leader, Professor David Brazer understands the gap between theory and application in the classroom. To bridge this gap, David has infused his Policy, Organization, and Leadership Studies (POLS) seminars with role-playing simulations

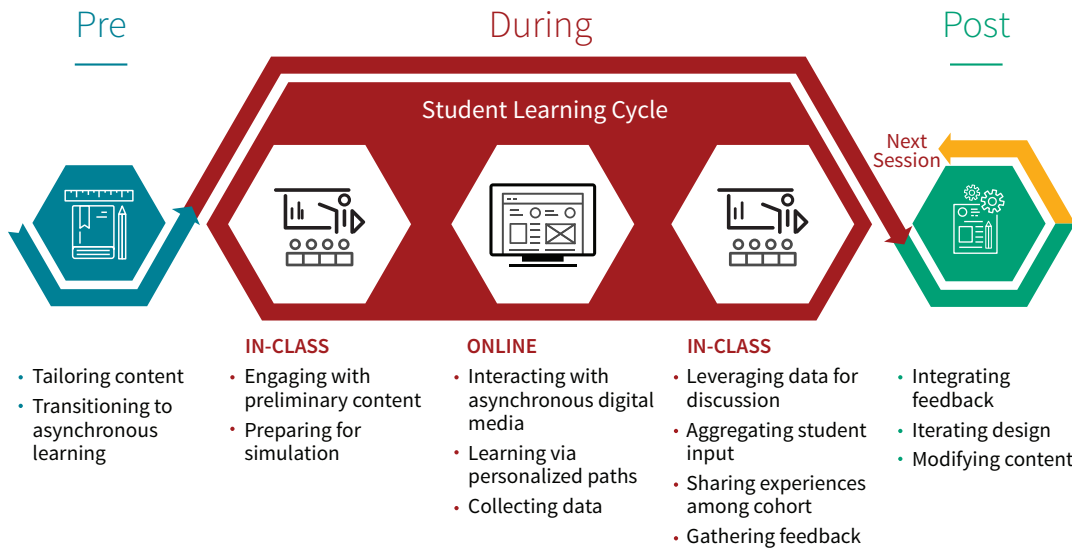
through which students put new concepts into practice. These simulations range from managing difficult employee relationships to creating and cultivating a team. Students have taken to this experience-rich pedagogy, and David, in turn, has leveraged these real-to-life environments as jumping off points for classroom discussions and deeper analyses.

Over time, however, David noted some constraints. To be authentic, the simulations are informationally intensive, making them difficult to customize for diverse student interests and aspirations. To develop robust but readily comprehensible character parts involves a great deal of writing time. Equally problematic was data gathering; David was limited physically to one group observation at a time, and participants were often too involved to properly record interactions.

Having brainstormed technology solutions previously with GSE IT, David approached Shawn Kim, Digital Innovations Lead, and Josh Weiss, Education Technology Specialist, to explore tech-facing solutions for his instructional needs. At the onset, David addressed three main questions for technology in his classroom. “I wanted to know: can it support and enhance authenticity, can it make my job easier, and can it make me more effective in what I am trying to accomplish?” Inspired by recent collaborations focused on web-based learning environments, an initial set of learning outcomes was mapped out. Among the key tenets were active learning, personalized pathways, and interactive media that would complement David’s curriculum and instructional methods.

Working within a blended learning model, the simulation design capitalizes on the unique strengths of face-to-face as well as online learning. As a result, the flow takes on an in-class, online, in-class sequence.

Within this flow, David delivers an introductory lesson in class exploring a central learning objective such as how to construct a vision statement for education-facing organizations. When students leave class, they log in to the simulation via Canvas and experiment with the learning objective by interacting with stakeholders and reflecting on how new perspectives might be honored in an inclusive way.



Blended learning involves optimally transitioning between digital and analog environments. The POLS simulation model (left) leverages in-class time for conveyance, peer learning, and analysis, while transitioning in and out of digital learning for personalized and trackable outcomes.

At the culmination of the simulation, students submit a polished vision statement.

In addition to collecting student responses, the simulation gathers underlying data such as participation, pace, and revision history. These data points can be further parsed for time spent on each screen, and even time spent on each interaction. For example, if a subset of learners spends a disproportionate amount of time with one stakeholder, this can be reported to the instructor to consider modification. Across cohorts, disproportionate amounts of energy spent on a particular stakeholder are an opportunity for targeted insights and class-wide investigation into bias, management styles, and execution strategies.

Once students were prepped, David concluded the initial class by tasking students with “meeting” their constituents during the following week via the simulation. In Canvas, students listened to audio scripts and moved toward creating a vision statement based on what they knew initially and what they had experienced. Throughout the week, David and Josh monitored student progress and designed further content based on incoming data.

In class the next week, students re-joined their leadership groups and developed an optimal vision statement based upon their collective experiences in the simulation. By bringing digital experiences back into the classroom, students connected their disparate and personalized learning outcomes with those of fellow learners, producing robust presentations. “When the final versions of the vision statements were presented in class,” noted David, “they demonstrated deep collective thinking about the needs of the organizations the students confronted. They were good examples of the power of individual reflection on experience coupled with collaborative learning and product development.” As a final measure, David and Josh led a debriefing exercise to glean insights into learners’ experiences over the past seven days.

Going forward, David plans to iterate on simulations and instructional workflows that provide personalized digital playgrounds in which learners can test out new concepts.

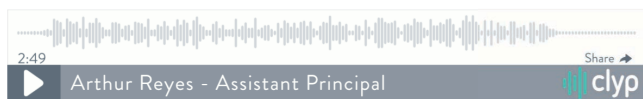
As GSE IT scales towards interactive media and custom app development, faculty and staff are encouraged to reach out with budding digital learning concepts. To discuss potential projects involving digital learning experiences, please contact Shawn Kim: [shawnkim@stanford.edu](mailto:shawnkim@stanford.edu)

## Fremont High School

Assistant Principal, Arthur Reyes

Listen to the below excerpt, then compose a short reflection of 150 words or less. Frame your thinking around the following:

- How might you want this person to be thinking differently?
- What values does this person espouse that you also embrace?



Write your reflection here:

The stakeholder clearly values socio-emotional wellbeing and student achievement across underprivileged populations. His background in Title I schools speaks to our mutual vision of providing wraparound services beyond athletics. We could probably come together on outputs, but I'd need to investigate further how he envisions allocations of resources.

SUBMIT

Interactions with stakeholders are captured via reflections and later used to construct vision statements

Prior to rolling out the blended learning model, David and Josh worked closely to transition in-person instructional material to web-based interactive media. To prepare students for independent online learning, David first provided detailed live instruction regarding the process behind constructing a vision statement. In addition, students were divided into groups to familiarize with the vision crafting problem and to consider leadership strategies they could employ in the upcoming simulation.



Students familiarize themselves with group scenarios during class

# TA's Develop Education Technology Expertise through Initiative

The Teaching Assistant Technology Practicum offers teaching and course assistants at the Graduate School of Education the opportunity to learn about pedagogical issues regarding teaching effectively with technology, as well as prepares them to integrate technology into course activities and instruction. The program uses a 5-phase model structured around the construction, implementation, and reflection elements of a lesson, activity, assignment, or artifact that uses technology to support student learning and engagement. TA's and CA's acquire expertise and learn to manage complexity within the academic technology domain as they progress through these 5 phases:

1. **Planning:** Identify an educational objective to improve or investigate, and develop a lesson plan or educational artifact that incorporates technology in its approach.
2. **Acting:** Implement the lesson plan or share the educational artifact in context.
3. **Observing:** Observe the effects of the plan or artifact.
4. **Reflecting:** Reflect on these effects as a basis for further planning and subsequent action.
5. **Sharing:** Craft a brief overview and reflection of the activity/artifact, and share it during a culminating presentation to the GSE and Stanford community.

In 2016, a cohort of TA's underwent training in various interactive media and education technologies. Here are some case studies as related by the TA's themselves:



Emma Groetzinger



Xavier Monroe

## **Video-Based Instruction,** Emma Groetzinger

- **How does it work?** Services like EDpuzzle and PlayPosit allow you to pull a video into the program from the internet and then embed questions or activities at particular moments of your choice throughout the video. There are options for placing questions or directions directly onto the screen, or for them to pop up to the right of the video screen.

- **What is your implementation plan?** The preliminary lesson I have planned with video-based annotation allows teacher candidates to view another teacher conducting a “number talk” with her 3rd grade students. The teacher in the video uses routines common to any “number talk” such as asking for multiple strategies, providing “wait time” between providing the prompt and eliciting answers, and asking students to use silent hand signals to show when they have an idea, or two, or three. In order to support the viewing of the video I have embedded questions along the way.

## **Student reflection and dialogue with Google Docs and Blendspace,** Xavier Monroe

- **How does it work?** Blendspace is an online forum that allows individuals to share their thoughts and comment on other users' content within a media-rich, tiled interface.
- **What is your implementation plan?** The interface serves as a forum for students in each group to write a weekly reflection, as well as a general course reflection page for sharing ideas. Our course's Blendspace website consists of four different rows (one for each group working with a particular community partner) and three columns (each sharing the community partner expectations). Each page is tied to a structured Google Docs page. (insert screenshot?) The central teaching strategy when utilizing this tool is to encourage students to integrate conversations that started in class with work students perform outside of class alongside community partners. The overall objective is to allow students to reflect upon their weekly experience and comment on what other group members share, all in an effort to inform in-class discussions.

**Interested in participating in TATP?** Apply for the 2017 TATP program at <http://tatp.stanford.edu>. For more information, contact Josh Weiss: [josh.weiss@stanford.edu](mailto:josh.weiss@stanford.edu)

## Professional Development Opportunity

The Digital Literacy Certification Program (DLCP) is designed to provide tools and the knowledge to help our staff members develop and improve competencies and skills linked to leveraging digital resources, improving business process efficiency, and supporting teaching, learning, and research activities.

Interested in participating or nominating staff? Please visit <http://dlcp.stanford.edu>



Digital Literacy  
Certification Program

# Using Canvas as a Productivity Tool

With the adoption of Canvas, many instructors have seen a dramatic improvement in the range and convenience of digital learning tools available for their classrooms. While Canvas is most commonly utilized as a document repository for readings and syllabi, this robust learning management system (LMS) can also be leveraged for streamlining all manner of coursework and communication. Thanks to consultations, workshops, and development programs like TATP (see previous article), instructors and TA's are taking full advantage of the software's ability to streamline weekly tasks like grading and attendance.

## As a productivity tool, Canvas features:

- **Attendance:** Track student presence class-by-class
- **Roster photos:** See all students' profile pictures
- **SpeedGrader:** View, annotate, and score student work directly (see below)

Moreover, Canvas serves as a one-stop resource for students and faculty to integrate conversations inside and outside the conversation. Among its hybrid learning features are:

- **Peer review:** Automatically distribute work among pre-selected or randomly assigned groups
- **Media integration:** Post videos, record webcams, and incorporate interactive graphics (see below)
- **e-Portfolio:** Publish tailored collection of student work

SpeedGrader allows instructors to perform all annotations and scoring in one place

Canvas also streamlines in-course communication for students, instructors, TA's, and even guest lecturers. Instructors can leverage features such as:

- **Announcements:** Send messages concurrently to Canvas inboxes and Stanford email addresses
- **One-click web-conferencing:** Initiate a group video-conference inside your course
- **Private chat client:** Communicate via live text chat within your course
- **Scheduler and calendar:** Create sign-up schedules and centralize dated items in all courses (see below)

In class, we engaged with Stephen Fry's think piece on the evolution of human communication. Building on these points, consider the questions in the below webcam video I recorded:



[Minimize embedded content](#)

Once comfortable with the task, engage with the below media, then compose a response in the discussion forum that follows.



Simple media integration such as webcam and YouTube embeds enhance multi-modal engagement

The scheduler feature provides a centralized registration portal for presentations, office hours, etc.