

Pandemic Transformation of Teaching and Learning: Designing Pedagogy Using Your Pedagogical Pantry Rather than Established Recipes

SARA SCHLEY

Rochester Institute of Technology

CAROL E. MARCHETTI

Rochester Institute of Technology

Abstract

How can faculty successfully shift from a physical classroom environment to creating meaningful online learning experiences in the midst of a pandemic? Using a “kitchen pantry” metaphor, this essay suggests faculty use a “what’s in my pantry?” approach, rather than trying to replicate the in-class experience and following a previously identified “recipe.” Some faculty embrace new technology options with great gusto. Others are resistant; and still others wait until they’ve seen others use it first to consider incorporating it. This model allows for different entry points of interaction, and for different levels of experimentation, reflecting individual faculty’s strengths and capabilities. How can faculty use the ingredients they already have at hand, and thoughtfully expand their kitchen tools and ingredients to plan a successful online experience? While these efforts may result in a completely different pedagogical experience than they planned pre-pandemic; engagement, collaboration, and interaction are achievable. We propose not tackling an entire newly-stocked pedagogical kitchen and pantry inventory, but instead carefully considering new options, and adding in a select few to start. This may help transform the online learning space to include fully engaged, interactive, and collaborative course components.

Keywords: teaching, online, technology

Prior to the COVID-19 pandemic, cooking a meal might entail several shopping trips to ensure that the right ingredients and equipment were at hand. But with shortages and lockdowns, home chefs often made do without a specific spice or particular cut of meat, resulting in a variation of a favored dish. But where some home cooks settled for imperfect versions of meals, others looked to the pantry and refrigerator with renewed inspiration, creating meals that occasionally disappointed and at times shined, but always provided a new experience for the cook and the diners.

Faculty in higher education have been facing similar challenges during this time. Face-to-face meetings with students have been severely limited or missing altogether. Many faculty felt this loss deeply, yearning for the direct communication and interpersonal connection to which they were accustomed. Few want to settle for less than satisfying teaching. Wouldn’t it be great if a substitution for the in-class experience was readily available? Nothing can truly replicate an in-person experience, but there is an abundance of tools for use in an online environment. As with recipes created out of necessity from available pantry items, initial course experiences with online resources may fall flat or may wildly succeed. Having a growth mindset—that you can become better at something difficult by continuing to work at it—and starting small can make this pedagogical adventure something to enjoy (Cawthon et al., 2020; Cawthon et al., 2019; Marchetti et al., 2019; Schley & Marchetti, 2020).

This essay reflects on a metaphor of “what’s in your pedagogical pantry?” to guide faculty teaching online in the current pandemic context. The online environment offers a wealth of interaction and collaboration opportunities, from varying levels of technical complexity. Social media is all about

interaction with an audience. Old-school online “bulletin boards” provide functionally similar utility as physical classroom bulletin boards, with the advantage that viewers can respond to posts, rather than only read them. Virtual playgrounds and game spaces offer both opportunities to play with others and to experiment with new tools. For a detailed list of the online resources, apps, and tools mentioned in this essay, see Appendix A. When viewed from a pedagogical perspective, all of these spaces promote the transfer of information, engaging with perspectives and deepening understanding, demonstrating what you know, and interaction and engagement—similar to what face-to-face classroom teaching and learning entails.

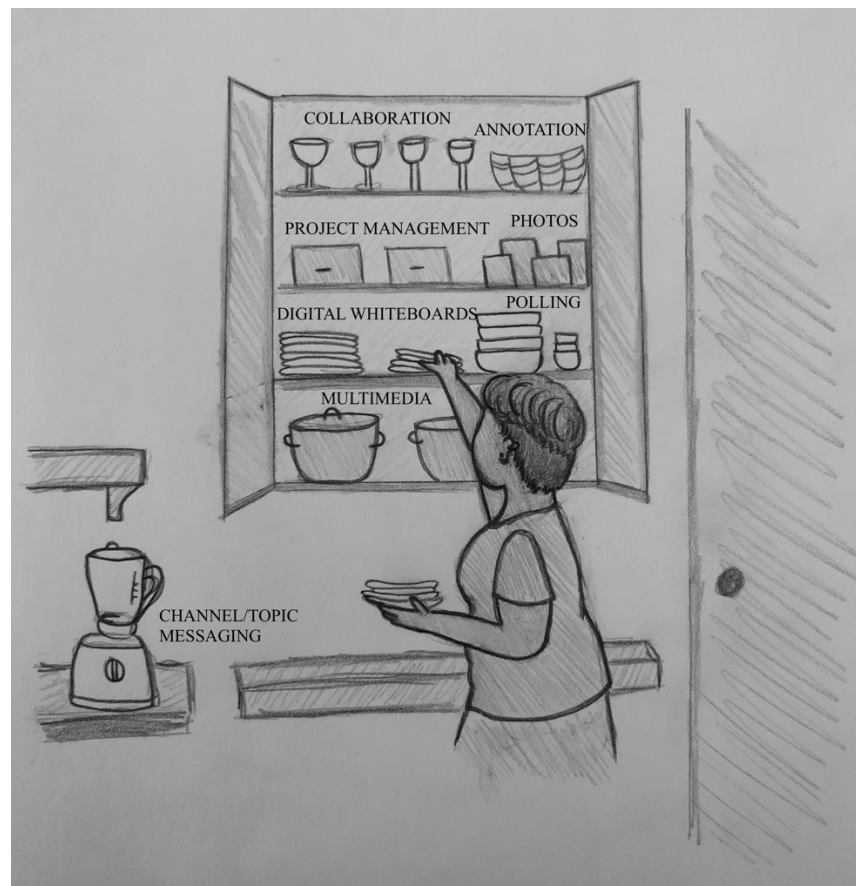


Figure 1: Metaphor: Pedagogical Pantry

The goal of this essay is not to provide detailed technical steps on how to do any specific strategy. Rather, the goal is to offer a shift of mindset: What experiences would you like to encourage and/or facilitate online, and what strategies do you have access to in your proverbial pedagogical pantry? Is there a single new ingredient you could try?

Sharing Instructor-led Information

Short lecture recordings

Most phones and computers have built-in capacity to record audio and video presentations, alongside (or without) slides. If your goal is to provide instructor-led information (summary of points, instructions, lab procedures, preview of material), this is a short leap from doing so in live face-to-face environments. We recommend treating these relatively informally—similar to delivering statements in a classroom, they do not have to be substantially edited and polished. Once an instructor has prepped for the content of what they want to share with students, it can be as simple as recording yourself on your

phone, and then posting the video online via a shared classroom space (course management area, shared online cloud storage area, etc.). To record slides alongside audio and video, there are a number of software which allow for capturing a slide presentation on your screen along with audio and/or video narration, including from within slide software itself (e.g., MS PowerPoint; Google Slides). While the intent of this essay is not to review detailed instructions for specific tools, many institutions of higher education have teaching and learning centers, with instructional designers and technical mentoring tailored to specific sets of tools available at a college or university.

Document Cameras

For synchronous online sessions, or asynchronous recorded sessions, you can use a document camera or a smartphone app workaround to create walk-throughs of content and processes for students. Consider solving math or physics problems, or demonstrating use of lab equipment, or working with a database: rather than having static slides in the background, this allows for showing processes to students during presentations. In addition to dedicated document cameras, this functionality is also available on many smart phones and is supported by a number of video conference tools (e.g., Zoom, MS Teams).

Discussion-Based Engagement and Interaction

Interactive and Collaborative Documents

Many instructors miss the opportunity to have engaged classroom discussions with students in face-to-face classrooms. During the fall of 2020, we experimented with extensive use of online collaborative documents for engaging and interacting with students. By posting a weekly document with an agenda, guiding questions, summaries, and links to information, all students responded within the document throughout the week. A variety of different kinds of information can be included in these online documents—hyperlinks to websites and videos, links to spreadsheets for collecting responses (for columns of responses with rows of students), in-document text discussions where all members of the course can interact throughout the week, etc.—this approach generated active and engaged discussion throughout the week. Students can also work in small groups on assignments using these tools (see Schley et al., 2020 for a detailed discussion and a downloadable template for your own use; see also Schley & Stinson, 2016).

Interactive Presentations (e.g., Voicethread)

These tools allow you to create online presentations consisting of multiple kinds of media (photos, documents, slides, weblinks, videos, etc.), and for students and instructors to add comments throughout the online presentation. Comments can come in multiple formats—text comments, document uploads, sound recordings, video recordings, etc. This levels-up a lecture presentation to one that is interactive; the instructor can add question-points throughout the presentation where students respond, and discussion can occur at any point within the presentation.

Virtual Whiteboards

Like using whiteboards in a face-to-face classroom, virtual whiteboards offer opportunities to take notes for a group, and to solve problems collaboratively—particularly problems which rely on information that is not easy to type (e.g., math, statistics, engineering problems, etc.). There are dozens of versions in existence (Google's Jamboard, Miro, Lucidspark, MS Whiteboard, etc.). These provide a rich opportunity to have students work together using hand-drawn and hand-written material.

Web and Document Annotation

With collaborative web and document annotation tools (e.g., Hypothesis, Scribble), individuals and groups can select a specific section of a webpage or document, add tags, share their own annotation or work together in groups, and reply to other annotations. This adds layers of community, student engagement, exploring reading comprehension, and building critical thinking into virtual class spaces.

Via adding either a browser plug-in or integration with a course learning management system, these tools add an active, visible, social and conversational layer to consuming online material.

Project Management: Document Sharing and Channel/Topic Messaging

A number of our colleagues have had success adding team and channel messaging options (e.g., MS Teams, Google Hangouts Chat, Slack, etc.), document repositories (e.g., Google Drive; Dropbox, MS OneNote, etc.), and project management apps (e.g., Trello, Asana, MS Teams, Notion, etc.). One advantage to using specialized tools for student tasks and project management is that it pulls such functions out of email, which can be unwieldy and unorganized for many. Another advantage is reducing cognitive load (Paas et al., 2010). By setting up an organized structure (channels for messaging, folders for storing and finding documents and materials, project goals and task management), an instructor can capitalize on customizing the workspace to match the course and assignment areas. Moreover, project management tools allow students to interact efficiently with materials and contextualized messaging and communication.

Collecting Knowledge- and Perspective-Based Information from Students

Smartphones: Pictures and Videos

If students are completing handwritten assignment sets (or assignments that would be difficult to conduct with a keyboard), they can upload a screenshot or photo of their handwritten exam solutions, perhaps with guidelines that they convert these files to a specific format, such as PDF, to make it easier on the faculty member to work with these files. Students could video themselves presenting about what they learned, rather than an in-class oral presentation. Most students have easy access to smartphones, and it is far simpler for them to upload a screenshot of their work (or to record a short video) than it is to type a written answer.

Polling Apps

In a lecture/discussion-oriented face-to-face course, an instructor will often “spot check” student knowledge—both as a formative evaluation of whether they are understanding what is being taught, and as feedback for an instructor while they do their job. For a course with large enrollment numbers, polling apps (e.g., Kahoot, Mentimeter, Poll Everywhere, Google Forms, etc.) help get immediate feedback from students; students use a web-link from a laptop or a phone. These transfer quite easily to an online synchronous teaching space.

Visual Media Assignments

In an episode of the podcast *Teaching in Higher Education* (Stachowiak, 2020), Paul Eaton discusses a photo elicitation project he uses in one of his courses:

The idea behind the project is that, each week in class, students would have to take an image that would capture some idea, concept, question around whatever it was that we were looking at that week around issues of diversity, equity, and inclusion. That could be a very representative image, or it could be an image that was more abstract. Then they would have to title the image, write a caption ... They did this every week. It's a different way of processing information, and then at the end of the term, we had each student in the class pick two images. We then had a photo gallery ... [Students] were able to talk to people from the community about what they had learned in the class, and explain their images, ... [which] ranged from everything like very abstract to things that were very concrete and easy to understand in terms of symbolic representational-ism. (Stachowiak, 2020)

This is transferable to an online virtual learning space. Eaton further describes how this project helped expand students' abstract understanding of concepts and material concerning Dolmage's (2017) *Academic Ableism*. They started the semester posting more concrete examples (such as pulling images of *stairs* to illustrate "steep steps" and access challenges to higher education for those with physical disabilities). By the end of the semester, they were able to post much more abstract images illustrating more complex concepts (e.g., not only can higher education be physically difficult to access because of stairs, students with disabilities are seen as a financial drain on the university as a whole—students learned how to translate the concepts to visual and evocative images).

This metaphor lends to starting online instructional planning from a "what's in my pantry?" approach, rather than from a perspective of what one misses by moving from in-person teaching and learning to physically distanced and online learning. The specific "cooking in the kitchen" metaphor could easily be "tools in a mechanic's shop" or in an "artist's studio." In essence, what do instructors have available that could provide a basic element to support student learning? The focus could be transfer of information, engaging with perspectives and deepening understanding, demonstrating what you know, or interaction and engagement. If you've seen Samin Nosrat's video series on the elements of cooking, "Salt, Fat, Acid, Heat" (Cotner et al., 2018), you'll recognize this approach. It's not about the specific recipe, but an understanding of what makes food delicious.

When faculty use the ingredients they already have at hand, and thoughtfully expand their kitchen tools and ingredients to plan a successful online experience, these efforts may result in a completely different pedagogical experience than they planned pre-pandemic. However, engagement, collaboration, and interaction are achievable. We propose not tackling an entire newly-stocked pedagogical kitchen and pantry inventory, but carefully considering new options, and adding in a select few to start to help transform the online learning space to include fully engaged, interactive, and collaborative course components. Instructors who use this approach to modify their teaching during the COVID-19 pandemic may just find that some of the tools they tried during this pedagogical shortage will prove valuable enough to continue using.

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Author's Note: Sara Schley is a full professor at Rochester Institute of Technology's National Technical Institute of the Deaf, in the Master of Science and Secondary Education program in Rochester, NY. Carol Marchetti is a professor at Rochester Institute of Technology's College of Science, in the School of Mathematical Sciences program in Rochester NY.

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Appendix

Table 1

Online Software, Apps, and Tools Mentioned in this Essay

Platform	URL
Asana	https://asana.com/
Dropbox	https://www.dropbox.com/
Google Drive	https://drive.google.com/
Google Jamboard	https://jamboard.google.com/
Google Forms	https://www.google.com/forms/about/
Google Hangouts	https://hangouts.google.com/
Hypothesis	https://web.hypothes.is/
Lucidspark	https://lucidspark.com/
Kahoot	https://kahoot.it/
Miro	https://miro.com/
Mentimeter	https://www.mentimeter.com/
MS Teams	https://www.microsoft.com/en-us/microsoft-teams/group-chat-software
MS OneNote	https://www.microsoft.com/en-us/microsoft-365/onenote/digital-note-taking-app
MS Whiteboard	https://www.microsoft.com/en-us/microsoft-365/microsoft-whiteboard/digital-whiteboard-app
Notion	https://www.notion.so
Poll	https://www.polleverywhere.com/
Scribe	https://www.scribe.com/
Slack	https://slack.com/
Trello	https://trello.com/
Voicethread	https://voicethread.com/
Zoom	https://zoom.us/