Teaching Portfolios
Michael Reese
Center for Educational Resources
Albert Schweitzer

ARTIST BIOGRAPHY

Born in Wisconsin in 1967, Albert now lives in Baltimore, Maryland. He received his B.F.A. degree in painting from the University of Wisconsin-Whitewater in 1990. He received an M.F.A. in painting from the Maryland Institute College of Art. He studied under Grace Hartigan at the Hoffberger School of Painting, graduating in 1995.

Albert exhibits frequently in New York, Baltimore, and Washington, D.C. His work is in many private and permanent collections.
Why Create a Teaching Portfolio?

• Reflection
• Connection
• Promotion
Why Create a Teaching Portfolio?

“Having an eportfolio was a huge asset when I went on the job market. Several institutions that interviewed me mentioned that my website was what initially drew their attention to my job application. My new department at Duke is very tech-savvy, and I know I have my eportfolio to thank for getting my foot in the door there.” – Valerie Mirshak
What is a Teaching Portfolio?
What is a Teaching Portfolio?

A teaching portfolio is a collection of documents that together provide a record of:

- the ideas and objectives that inform your teaching
- the courses you teach or are prepared to teach
- the methods you use
- your effectiveness as a teacher
- how you assess and improve your teaching

Washington U in St. Louis:
http://teachingcenter.wustl.edu/About/ProgramsforGraduateStudentsandPostdocs/resources/Pages/Creating-a-Teaching-Portfolio.aspx
What Should I Include?

• Teaching Philosophy Statement
• Previous Responsibilities
• Representative Work
• Contributions to Scholarship of Teaching
• Professional Development Activities
• Honors/Awards
• Materials from Others
What Should I Include?

Teaching Philosophy Statement

Michelle Kovarik: Teaching Portfolio

Teaching Statement

Success in chemistry requires the students develop mathematical and conceptual understanding of topics, embrace the inquiry-based nature of science, and learn to communicate complex ideas with clarity and accuracy. In general chemistry, students establish a new vocabulary and a foundation in mathematical manipulations based on chemical equations. Throughout the curriculum, students should also experience the creative nature of scientific research and the importance of communicating experiments and results clearly. To help my students achieve these goals by addressing both quantitative and conceptual understanding while grounding their learning in inquiry and in the larger community beyond the classroom.

Formulating Mathematical and Conceptual Understanding

Students can often master the algorithmic side of chemistry without appreciating the practical implications of their calculations; however, chemistry is not just math with text. To highlight this, I design my problem-sets around real-world examples. I have developed the use of case studies based on industry-driven, common misconceptions and experimentation, and medical applications. I also provide explicit opportunities for students to estimate answers before “plugging and chugging.” Encourage them to evaluate the plausibility of their answers in context, and emphasize proportional reasoning skills. For example, in a unit on gas laws, my students practice predicting how and why pressure and temperature changes occur inside a pressure cooker or soda can. By relating the specific values to products, when we do longer calculations, I provide frequent opportunities for small group problem-solving. I am an advocate for an immediate check for novice students, who may fail to square surface computations of an instructor-led example with the deeper understanding needed to solve problems independently. As problems become more complex, I also help my students become proficient in using computer software to complete their calculations. In fact, students in my instrumental analysis class identified the use of Excel in homework as one of the most valuable and measurable aspects of the class.

In parallel with this quantitative problem-solving, I use short answer and writing assignments to build conceptual understanding. In class, homework, and exams, I ask students to explain phenomena, evaluate methods, and predict the results of experiments. Why is it safe to burn a green fire with baking soda, but not with flour? What separation method would you use to characterize a sample’s purity, and what? What will happen if I double the amount of fuel in a piston before ignition? Assigning written problems also provides an opportunity to think deeply about specific concepts and to identify weak points in students’ understanding of problems. Allowing students to work in small groups and to articulate novel ideas in my instrumental analysis class, students completed 7 writing assignments for our class portal in which they framed opinions about current issues in analytical chemistry, explained the thought processes they used in problem solving, and interviewed a scientist about the use of instrumentation to achieve research goals.

Gaining Learning in Research and Inquiry

Even beginning students and non-majors should understand that “doing science” means proposing new questions, formulating hypotheses around these questions, and designing experiments to test them. Consequently, I include project- and inquiry-based learning in the teaching laboratory. As a graduate student at Indiana University, I co-developed a problem-based learning module on gold nanoparticle synthesis that incorporates experimental design into a general chemistry laboratory. In my instrumental analysis lab, each group explores the available instrumentation during weeks of guided exercises, then selected a specific instrument. The students write a proposal on their plans and submit 3 weeks on a detailed investigation of real-world samples (e.g., perfumes, honey, sunscreen, or tea). We also emphasized the creative nature of scientific research in the lecture portion of class, where we discussed four papers describing cutting-edge applications of spectroscopy, mass spectrometry, electrochemistry, and separations. I prepared guided reading assignments to scaffold the students’ engagement with the material, and we spent a class period discussing each manuscript for each paper, small groups of students became experts on a specific figure or technique and presented that topic to the class to reinforce their understanding.

Undergraduate research experience is critical for any student planning to pursue a career as a professional chemist. I have mentored seven undergraduate researchers and seen firsthand how research-based problem-solving enhances a student’s learning. Through undergraduate research, a student gains ownership of a specific scientific question and experiences the creative nature of scientific endeavor. I recently recognized the enduring impact of this experience when a former student contacted me for a recommendation letter for graduate school after five years in a successful career in science-driven companies. I missed the creative work of research and decided to pursue a Ph.D. Undergraduate research also introduces students to the larger scientific community. An undergraduate mentor at Indiana University presented his honors thesis research at an international conference and is now pursuing graduate studies. Similar, the student who worked with me at North Carolina A&T State University received a travel grant to present a short paper at the Annual Biomedical Research Conference for Minority Students. These experiences provide valuable professional development and hopefully ignite a lifelong passion for discovery.

Learning by Teaching

Teaching and learning are complementary processes. Few activities produce the depth of understanding gained by teaching an idea to someone else. At Indiana University, I was the assistant instructor for a directed service learning class in which undergraduates designed chemistry demonstrations, taught them in their classrooms, and led them for children at the local Boys’ and Girls’ Clubs. At North Carolina A&T, I obtained a grant from the ACS Division of Analytical Chemistry to incorporate a service learning project into my instrumental analysis lab. Each lab group partnered with a 3rd grade class at a local Greensboro elementary school. My students made two presentations to each second grade class, and led the students in lab experiments. A female junior at A&T’s science department was a co-author on the ACS paper. These experiences allow students to develop important professional skills and enrich their professional portfolio.

SOURCE: https://sites.google.com/site/mkovarikteachingportfolio/home

Preparing Future Faculty

TEACHING ACADEMY
What Should I Include?

Previous Responsibilities/ Representative Work

What Should I Include?

Contributions to Scholarship of Teaching

SOURCE: http://sciencegeekgirl.com/science_research.html
What Should I Include?

Professional Development Activities

Conferences Attended

World Business Forum, New York City - October 2013
Liberal Arts and Sciences Conference, Humber College - October 2013
On-Course Student Success National Conference, Costa Mesa, California - April 2013
Liberal Arts and Sciences Conference, Humber College - October 2012
Liberal Arts and Sciences Conference, Humber College - October 2011


Preparing Future Faculty
TEACHING ACADEMY
What Should I Include?

Honors/Awards

TEACHING PORTFOLIO

Teaching Philosophy

My ongoing teaching challenge is to both demonstrate the utility of historical practice and simultaneously communicate my awe of and enthusiasm for the past.

Read my full Statement of Teaching Philosophy

Teaching Digital Humanities with Analog Tools

It’s hard to guarantee access to all the right tools for digital humanities in a standard classroom. That’s doubly true in a survey course that’s listed as a traditional history class, especially when it’s not feasible to schedule every single class session in a computer lab. My series on teaching digital-humanities methodology with analog tools demonstrates how I adapt my teaching philosophy to the real-world constraints of the classroom.

Teaching Awards

- Susan O’Kell Memorial Award for Outstanding Associate Instructor, Department of History, Indiana University (2010-2011)
- Competitive teaching award for summer lectureship, Department of History, Indiana University (Summer 2010)

SOURCE: http://www.kalanicraig.com/teachingportfolio/

Preparing Future Faculty

TEACHING ACADEMY
What Should I Include?

Materials from Others

SOURCE: https://sites.google.com/site/briannarapp/letters-of-recommendation
Activity

1. Turn to your neighbor
2. Share a word or phrase that describes your teaching style.
3. Describe an artifact (e.g., lesson plan, assignment description, student comments, observation) that you could include as evidence of that word or phrase.
How Do I Create a Teaching Portfolio?

Step-by Step approach suggested by Peter Seldin

1. Summarize your teaching responsibilities
2. Describe your approach to teaching
3. Select items for the portfolio
4. Prepare statements on each item
5. Arrange the items in order (e.g., chronological, professional growth, thematic).
6. Compile supporting data
7. (Incorporate the portfolio into the curriculum vitae)

How Do I Create a Teaching Portfolio?

Additional Suggestions by Mike Reese

1. Define your intended audience
2. Choose a format: Paper or Web-based
3. Start collecting artifacts now!
4. Be selective in choosing what to share
5. Search for examples online
6. Connect with others – Get feedback
7. Be committed to it – Update it
Examples

• **Giovanni Urist**  
  Wordpress / Selective / Doctoral Student

• **Natalie Milman**  
  Web-page (embedded) / Selective / Professor

• **Jessica Hausner**  
  Paper-based / Detailed / Doctoral Student

• **Nancy Henke**  
  Web-page / Detailed / Master’s Student
Additional Resources

• Center for Educational Resources
  – Advice
  – Video Support / Panopto
• Anne Reilly’s *Teaching at the University Level* Course
• Richard Shingle’s *Preparation for University Teaching* Course
Additional Resources

• *The Teaching Portfolio: A Practical Guide to Improved Performance and Promotion/Tenure Decisions* by Peter Seldin

• Washington University: http://teachingcenter.wustl.edu/About/ProgramsforGraduateStudentsandPostdocs/resources/Pages/Creating-a-Teaching-Portfolio.aspx

• Vanderbilt: http://cft.vanderbilt.edu/guides-sub-pages/teaching- portfolios/

• U of Virginia Website (Examples): http://trc.virginia.edu/topic/teaching- portfolios/