

JULIA K. JOHNSON – CURRICULUM VITA

Degrees/Recent Professional Experience

Arizona State University, Tempe: B.S., Geology, 1996

Arizona State University, Tempe: M.S., Geology, 2000

Arizona State University (07/04 to present): Faculty Instructor (Senior), School of Earth and Space Exploration

Arizona State University-West: Adjunct Faculty (01/03 to 05/03)

Maricopa County Community College District (01/01 to 05/01): Full-time Resident Geology Faculty at Glendale CC (08/02 to 7/04); Full-time Geology Instructor at Glendale CC (01/01 to 05/01) and Scottsdale CC (08/01 to 12/01); Adjunct Geology Instructor at Chandler-Gilbert CC (08/00 to 12/00)

Organizations and Committees

- SESE Undergraduate Committee – Reviewing and recommending changes to programs, descriptions, and courses (Spring 2020 to present).
- SESE Curriculum Reform – Ad-hoc committee undertaking a comprehensive examination of our first-year courses (August 2016 to present).
- CLAS Dean's Natural Sciences Subcommittee – Exploring strategies for deploying online labs, as an intermediate step of developing fully online science degrees (August 2016-2018).
- CLAS Senate – Substituted for another faculty member (January through August 2016).

Contributions to Teaching Excellence

- SESE TA training for incoming graduate students at the beginning of every fall semester
- GLG103 TA training for all TAs (both graduate and undergraduate) at the beginning of every semester
- Camp SESE (2017 to 2019). Take incoming undergraduate students on a short hike near Camp Tontozona during Camp SESE to observe and discuss the rocks
- Coordinate with Student Accessibility and Inclusive Learning (SAILS) to create 3D representations of the topography used in ASU's GLG103 labs for visually impaired students (this requires a lot of coordination and effort). This year, we worked hard with the DRC to make all the content and movies used in both in-person labs and online labs ADA compliant. This is ongoing.
- Meet with and supply local schoolteachers with supplies and ideas about teaching minerals, rocks, and maps to their students
- Identify and provide materials to be used for service learning and outreach opportunities to local schools and community organizations.
- Provide many Barrett Honor's College students in my online classes with honor's projects
- Helped new faculty and former graduate students with new teaching positions put together their introductory geology syllabi and course materials and giving them tips on developing interactive classrooms
- Helped guide experienced faculty update their introductory course teaching materials
- Substituted for several faculty when necessary
- Participated in driving and guiding as many field trips as I could for undergraduate-level geology courses
- Participated in a redesign effort for SESE introductory courses for majors (SES 121/122/123/124) by incorporating exploration, problems solving, and development of critical thinking skills. Still uncertain if our efforts paid off. (2017-2019)

- Senior theses projects: current students include Jessica Scheller (characterizing landslide blocks at Papago Park)
- Honors Faculty for Barrett, The Honors College – Design honors projects for several honors' students every semester, including projects for online students. Projects generally require students to complete a solo field project where they make observations and interpretations of an outcrop or hiking trail and present their findings during lecture for in-person classes.
- Participated in a SESE redesign project for GLG101, and ultimately piloted the redesigned version in both in-person lectures and online classes. This small group worked many hours designing online materials, including online quizzes, geologic investigations, and interactive learning modules. In addition to the online materials, we developed 18 graphically based worksheets to accompany the online investigations.
- Electronic version of the online lab manual: as of the summer 2013 semester, students are now able to subscribe to an online lab manual for the online geology course, complete with links to the online course website and Canvas assessments.
- Always updating and implementing new activities for the GLG 103 labs and SES123/124 labs, including the use of anaglyph maps and exposing students to a variety of different types of geologic maps, including flood maps, caliche maps, and depth-to-bedrock maps.
- Organized and participated in a mini seminar for new faculty teaching GLG 101, discussing teaching philosophies, strategies, and teaching tips.
- Designed an active-learning environment for Geologic Disasters and the Environment (GLG110) emphasizing inquiry and critical thinking: activities include formal in-class debates on current environmental issues, independent research projects focusing on geologic and environmental factors for a region of the world, in-class activities where students observe, interpret, and discuss environmental issues, and impromptu presentations synthesizing information and identifying important points.
- Coauthored a new, innovative laboratory manual and helped develop an accompanying web site for the laboratory for Introduction to Geology; oversaw piloting of new lab manual and teaching assistants; revised lab manual and web site.
- Developed several new exercises and techniques for infusing active participation and cooperative learning into introductory geology classes. Helped several ASU faculty incorporate these exercises into GLG 101 courses at ASU.
- Developed interactive visualizations, multimedia, and web-based educational materials for introductory geology courses; developed web sites to help students visualize topography, geologic landscapes, geologic history, and global environmental factors, such as climate.
- Helped coordinate a workshop on visualization and technology in college science courses, attended by faculty from ASU and Maricopa County Community College District
- Helped develop and teach a Geology of Arizona class founded on active learning and a student-centered approach.
- Coordinated Program Assessment for all programs at Glendale Community College.

Textbooks

- Reynolds, S.J., Johnson, J.K., in press, *Exploring Geology*, 6th Edition: McGraw-Hill Education, Dubuque, Iowa, 694 p. (to be published in January 2021).
- Reynolds, S.J., Rohli, R.V., Johnson, J.K., Waylen, P.R., Francek, M.A., 2020, *Exploring Physical Geography*, 3rd Edition, McGraw-Hill Education, Dubuque, Iowa, 699 p. (published January 2020).
- Reynolds, S.J., and Johnson, J.K., 2018, *Exploring Earth Science*, 2nd Edition: McGraw-Hill Education, Dubuque, Iowa, 687 p.
- Reynolds, S.J., Johnson, J.K., Morin, P.J., and Carter, C.M., 2018, *Exploring Geology*, 5th Edition: McGraw-Hill Education, Dubuque, Iowa, 674 p.

- Reynolds, S.J., Rohli, R.V., Johnson, J.K., Waylen, P.R., Francek, M.A., 2017, *Exploring Physical Geography*, 2nd Edition, McGraw-Hill Education, Dubuque, Iowa, 696 p.
- Reynolds, S.J., and Johnson, J.K., 2015, *Exploring Earth Science*, Dubuque, McGraw-Hill Education, 683 p.
- Reynolds, S.J., Johnson, J.K., Morin, P.J., and Carter, C.M., 2015, *Exploring Geology*, 4th Edition: McGraw-Hill Education, Dubuque, Iowa, 672 p.
- Reynolds, S.J., Rohli, R.V., Johnson, J.K., Waylen, P.R., Francek, M.A., 2014, *Exploring Physical Geography*, 1st Edition, McGraw-Hill Education, Dubuque, Iowa, 696 p.
- Reynolds, S.J., Johnson, J.K., Morin, P J, and Carter, C M, 2012, *Exploring Geology*, 3rd Edition: McGraw-Hill, Dubuque, Iowa, 649 p.
- Reynolds, S.J., Johnson, J.K., Kelly, M. M, Morin, P J, and Carter, C M, 2010, *Exploring Geology*, 2nd Edition McGraw-Hill, Dubuque, Iowa, 616 p.
- Reynolds, S.J., Johnson, J.K., Kelly, M.M., Morin, P.J., and Carter, C.M., 2007, *Exploring Geology*, Dubuque, McGraw-Hill Higher Education, 575 p.

Textbook-Related Publications

- Johnson, J.K., and Reynolds, S.J., 2019, Instructor's Guide for *Exploring Physical Geography*, 3rd Edition: McGraw-Hill, 140 p.
- Johnson, J.K., and Reynolds, S.J., 2019, Teaching Tips for *Exploring Physical Geography*, 3rd Edition: McGraw-Hill, 7 p.
- Johnson, J.K., and Reynolds, S.J., 2019, Media-enriched PowerPoint files for *Exploring Physical Geography*, 3rd Edition: McGraw-Hill, 54 files.
- Johnson, J.K., and Reynolds, S.J., 2018, Instructor's Guide for *Exploring Earth Science*: Distributed electronically by McGraw-Hill Education, 35 p.
- Johnson, J.K., and Reynolds, S.J., 2018, Teaching Tips for *Exploring Earth Science*: Distributed electronically by McGraw-Hill Education, 8 p.
- Perkins, D.E., Johnson, J.K., and Reynolds, S.J., 2018, Instructor's Guide for *Exploring Geology* 4th Edition: Distributed electronically by McGraw-Hill, 100 p.
- Johnson, J.K., and Reynolds, S.J., 2018, *Teaching Tips for Exploring Geology*, 4th Edition: Distributed electronically by McGraw-Hill, 7 p.
- Johnson, J.K., and Reynolds, S.J., 2016, Instructor's Guide for *Exploring Physical Geography*, 2nd Edition: McGraw-Hill, 140 p.
- Johnson, J.K., and Reynolds, S.J., 2016, Teaching Tips for *Exploring Physical Geography*, 2nd Edition: McGraw-Hill, 7 p.
- Johnson, J.K., and Reynolds, S.J., 2015, Teaching Tips for *Exploring Earth Science*: Distributed electronically by McGraw-Hill Education, 8 p.
- Johnson, J.K., and Reynolds, S.J., 2015, Instructor's Guide for *Exploring Earth Science*: Distributed electronically by McGraw-Hill Education, 34 p.
- Johnson, J.K., and Reynolds, S.J., 2015, Teaching Tips for *Exploring Geology*, 4th edition Science: Distributed electronically by McGraw-Hill Education, 7 p.
- Perkins, D.E., Johnson, J.K., and Reynolds, S.J., 2015, Instructor's Guide for *Exploring Geology* 4th Edition: Distributed electronically by McGraw-Hill, 143 p.
- Johnson, J.K., and Reynolds, S.J., 2014, Instructor's Guide for *Exploring Physical Geography*, 1st Edition: McGraw-Hill, 140 p.
- Johnson, J.K., and Reynolds, S.J., 2014, Teaching Tips for *Exploring Physical Geography*, 1st Edition: McGraw-Hill, 7 p.
- Perkins, D.E., Johnson, J.K., and Reynolds, S.J., 2012, Instructor's Guide for *Exploring Geology* 3rd Edition: Distributed electronically by McGraw-Hill, 143 p.
- Johnson, J.K., and Reynolds, S.J., 2012, Teaching Tips for *Exploring Geology*, 3rd Edition: Distributed electronically by McGraw-Hill, 7 p.

- Perkins, Dexter, Reynolds, S.J., and Johnson, J.K., 2009, Quick Start Guide, *Exploring Geology* Second Edition: McGraw-Hill, Dubuque, Iowa, 10 p.
- Perkins, D.E., Johnson, J.K., and Reynolds, S.J., 2009, Instructor's Manual for *Exploring Geology*, 2nd Edition: Distributed electronically by McGraw-Hill, 141 p.
- Reynolds, S.J., and Johnson, 2008, Teaching Tips for *Exploring Geology*, McGraw-Hill, distributed electronically, 3 p.
- Johnson, J.K., Reynolds, S.J., and Kelly, M.K., 2007-2008, Instructor's Guide for *Exploring Geology*: Dubuque, McGraw-Hill Higher Education, CD-ROM and distributed electronically.
- Reynolds, S.J., Johnson, J.K., Kelly, M.M., Morin, P.J., and Carter, C.M., 2007, *Exploring Geology*, Boston, McGraw-Hill Higher Education.
- Johnson, J.K., Reynolds, S.J., Kelly, M.M., 2007, Instructor's manual for *Exploring Geology* (CD ROM); Dubuque, McGraw-Hill Higher Education.
- Kelly, M.M., Morin, P.J., Reynolds, S.J., Johnson, J.K., and Carter, C.M., 2007, *Exploring Geology* instructor's powermedia DVD ROM (2 DVD set); Boston, McGraw-Hill Higher Education.

GLG103 Lab Manual Publication

- Johnson, J.K., Reynolds, S.J., 2015-2020, *Observing and Interpreting Geology – A Laboratory Manual for Online Introductory Geology*, an online publication, Blue Door Publishing, 200 p.
- Johnson, J.K., Reynolds, S.J., 2019, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, In-person editions for Spring 2019 and Fall 2019 Edition, 210 p.
- Johnson, J.K., Reynolds, S.J., 2018, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, In-person editions for Spring 2018 and Fall 2018 Edition, 210 p.
- Johnson, J.K., Reynolds, S.J., 2017, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, In-person editions for Spring 2017 and Fall 2017 Edition, 210 p.
- Johnson, J.K., Reynolds, S.J., 2016, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, In-person editions for Spring and Fall 2016 Edition, 210 p.
- Johnson, J.K., Reynolds, S.J., 2014, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, In-person edition for Spring and Fall 2014, 210 p.
- Johnson, J.K., Reynolds, S.J., 2013, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, In-person editions for Spring and Fall 2013, 210 p.
- Johnson, J.K., Reynolds, S.J., 2012, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, Spring and Fall 2012 Edition, 210 p.
- Johnson, J.K., Reynolds, S.J., 2011, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, Spring and Fall 2011 Edition, 210 p.
- Johnson, J.K., Reynolds, S.J., 2010, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, Spring and Fall 2010 Edition, 210 p.
- Johnson, J.K., Reynolds, S.J., 2009, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, Spring 2009 and Fall 2009 Edition, 210 p.
- Johnson, J.K., Reynolds, S.J., 2008, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, Spring 2008 and Fall 2008 Edition, 210 p.
- Johnson, J.K., Reynolds, S.J., 2007, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, Spring 2007 and Fall 2007 Edition, 210 p.
- Johnson, J.K., Reynolds, S.J., 2006, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, Spring and Fall 2006 Edition, 210 p.
- Reynolds, S.J., Johnson, J.K., and Stump, E., 2005, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, Spring and Fall 2005 Edition, 208 p.
- Reynolds, S.J., Johnson, J.K., and Stump, E., 2004, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, Spring 2004 Edition, 196 p.
- Reynolds, S.J., Johnson, J.K., and Stump, E., 2003, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, Spring 2003 Edition, 188 p. (major revision)

- Reynolds, S.J., Johnson, J.K., and Stump, E., 2002, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, Spring and Fall 2002 Editions, 148 p. (major revision in Fall)
- Reynolds, S.J., Johnson, J.K., and Stump, E., 2001, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, Spring and Fall 2001 Editions, 146 p. (major revision in Fall)
- Reynolds, S.J., Johnson, J.K., and Stump, E., 2000, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, Spring and Fall 2000 Editions, 152 p.
- Reynolds, S.J., Johnson, J.K., and Stump, E., 1999, *Observing and Interpreting Geology – A Laboratory Manual for Introductory Geology*, 150 p. First Edition

Other Publications

- Reynolds, S.J., and Johnson, J.K., in preparation, *Roadside Geology of Arizona*: Missoula, Montana, Mountain Press.
- Reynolds, S.J., Conway, F.M., Johnson, J.K., Doe, M.F., Niemuth, N.J., 2017 The Phillip Anderson Arizona Proterozoic Archive. Arizona Geological Survey Contributed Report CR-17-D, 2 p.
- Reynolds, S.J., Piburn, M.D., Leedy, D.E., McAuliffe, C.M., Birk, J.P., Johnson, J.K., 2006, The hidden earth – interactive, computer-based modules for geoscience learning: Geological Society of America Special Paper. 413.
- Reynolds, S.J., Piburn, M.D., Leedy, D.E., McAuliffe, C.M., Birk, J.P., and Johnson, J.K., 2006, The Hidden Earth - Interactive computer-based modules for geoscience learning, in Manduca, C., and others, eds., *Earth and Mind*, Geological Society of America Special Paper 413, p. 171-186.
- Johnson, J.K., and Reynolds, S.J., 2005, Concept sketches – Using student- and instructor-generated annotated sketches for learning, teaching, and assessment in geology courses: *Journal of Geoscience Education*, v. 52 p. 85-95.
- Reynolds, S.J., Johnson, J.K., Piburn, M.D., Leedy, D.E., Coyan, J.A., and Busch, M.M., 2005, Visualization in undergraduate geology courses, in Gilbert, J.K., ed. *Visualization in Science Education*: Kluwer Academic Publishers, Boston, p. 253-266.
- Reynolds, S.J., Piburn, M.D., Johnson, J.K., Leedy, D.E., Coyan, J.A., and Busch, M.M., 2005, The Hidden Earth Curriculum Project: spatial visualization in undergraduate geoscience courses, in Cunningham, S. ed., *Invention and Impact: Building Excellence in Undergraduate STEM Education*: National Science Foundation, Washington, D.C., p. 141-145.
- Piburn, M.D., Reynolds, S.J., McAuliffe, C., Reynolds, S.J., Leedy, D.E., Birk, J.P., and Johnson, J.K., 2005, The role of visualization in learning from computer-based images: *International Journal of Science Education*, v. 27, p.513-527.
- Reynolds, S.J., Coyan, J.A., Johnson, J.K., Leedy, D.E., and Piburn, M.D., 2004, Using Interactive Animations to Prepare Students for the Field: Presentations from the Workshop Teaching Structural Geology in the 21st Century, 9 p.
<http://serc.carleton.edu/NAGTWorkshops/structure/presentations.html>
- Reynolds, S.J., and Johnson, J.K., 2002, Interactive 3D Geological Maps. In: Bobyarchick, A., editor, *Visualization, Teaching and Learning in Structural Geology*: *Journal of the Virtual Explorer*, v. 9, p. 41-42, CD-ROM.
- Johnson, J.K., and Reynolds, S.J., 2002, Visualizing the land surface: chapter for Prentice-Hall Geosciences laboratory manual, in review.
- Reynolds, S.J., and Johnson, J.K., 2002, GeoBlocks 3D - Interactive 3D Geologic Blocks. In: Bobyarchick, A., editor, *Visualization, Teaching and Learning in Structural Geology*: *Journal of the Virtual Explorer*, v. 9, p. 39-40, CD-ROM.
- Johnson, J.K., Reynolds, S.J., and Jones, D.A., 2003, Geologic Map of the Phoenix Mountains, central Arizona: Arizona Geological Survey Digital Geologic Map, scale 1:24,000.
- Johnson, J.K., and Reynolds, S.J., 2003, *Visualizing the land surface*: chapter for Prentice-Hall Geosciences laboratory manual, in review.

- Johnson, J.K., and Reynolds, S.J., 2002, *Geologic Field Trip Guide to the Phoenix Mountains, central Arizona*: Arizona Geological Society Field Trip Guide, 26 p.
- Piburn, M.D., Reynolds, S.J., Leedy, D.E., McAuliffe, C., Birk, J.E., and Johnson, J.K., 2002, The Hidden Earth: Visualization of geologic features and their subsurface geometry: Paper accompanying presentation to national meeting of National Association of Research in Science Teaching (NARST), New Orleans, LA, 47 p. with CD-ROM.
- Johnson, J.K., 2002, Geology of the Phoenix Mountains, central Arizona: Tempe, Arizona State University MS Thesis, 140 p., scale 1:24,000.
- Graf, W., et al., 1999, Hydraulics and History: Channel Change on the Salt River in the Phoenix Metropolitan Area, 147 p.

Abstracts, Presentations, Field Trips

- Johnson, J.K., and Reynolds, S.J., 2020, Teaching deep understanding using concept sketches and concept-sketch portfolios: Webinar, October 30, 2020.
- Reynolds, S.J., and Johnson, J.K., 2020, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: Webinar, October 23, 2020.
- Johnson, J.K., and Reynolds, S.J., 2020, Moving your in-person class and labs online with minimal pain to you and your students: Webinar, March 27, 2020.
- Johnson, J.K., and Reynolds, S.J., 2020, Moving your in-person class and labs online with minimal pain to you and your students: Webinar, March 24, 2020.
- Johnson, J.K., and Reynolds, S.J., 2020, Moving your in-person class and labs online with minimal pain to you and your students: Webinar, March 19, 2020.
- Reynolds, S.J., and Johnson, J.K., 2020, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: Webinar, March 6, 2020.
- Reynolds, S.J., and Johnson, J.K., 2020, Informal field trip guide for AEG (Association of Environmental and Engineering Geologists) trip to Sierrita Mountains, Arizona, February 29, 2020.
- Reynolds, S.J., and Johnson, J.K., 2020, Optional field trips to Papago Park for SES124 students, February 24-25, 2020.
- Reynolds, S.R., and Johnson, J.K., 2020, Geology of Papago Park field trip: Phoenix Zoo and South Mountains Environmental Education Center Docents, February 15, 2020.
- Reynolds, S.J., and Johnson, J.K., 2020, Geology of the South Mountains and Papago Park: Phoenix Zoo and South Mountains Environmental Education Center Docents, February 12, 2020.
- Johnson, J.K., and Reynolds, S.J., 2019, Learning geology through active learning and exploration: Pima Community College, Tucson, October 29, 2019.
- Johnson, J.K., and Reynolds, S.J., 2019, Teaching deep understanding using concept sketches and concept-sketch portfolios: Webinar, October 25, 2019.
- Reynolds, S.J., and Johnson, J.K., 2019, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: Webinar, October 18, 2019.
- Reynolds, S.J., and Johnson, J.K., 2019, Concept-sketch exams and portfolios: Promoting deep understanding of important geoscience topics: Geological Society of American Annual Meeting, 230-12, Phoenix, Arizona, September 23, 2019.
- Reynolds, S.J., and Johnson, J.K., 2019, Proterozoic construction of continental crust, extreme Cenozoic extension, and great Mexican food: Field trip during GSA meeting in Phoenix, September 21, 2019.
- Reynolds, S.J., and Johnson, J.K., 2019, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: Cal-State Bakersfield April 2019.
- Reynolds, S.J., and Johnson, J.K., 2019, Teaching deep understanding using concept sketches and concept-sketch portfolios: Association of American Geographers National Meeting, Washington DC (Focus Group), April 3, 2019.

- Reynolds, S.J., and Johnson, J.K., 2019, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: University of Arkansas, March 2019.
- Reynolds, S.J., and Johnson, J.K., 2019, Teaching deep understanding using concept sketches and concept-sketch portfolios: University of Arkansas, March 2019.
- Johnson, J.K., and Reynolds, S.J., 2019, Teaching deep understanding using concept sketches and concept-sketch portfolios: Webinar, March 15, 2019.
- Reynolds, S.J., and Johnson, J.K., 2019, Geology of the South Mountains: Phoenix Zoo, South Mountain Environmental Education Center, Phoenix, Arizona, February 12, 2019.
- Reynolds, S.J., and Johnson, J.K., 2019, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: Webinar, February 2019.
- Reynolds, S.J., and Johnson, J.K., 2018, Teaching deep understanding using concept sketches and concept-sketch portfolios: Workshop at Geological Society of America National Meeting, Indianapolis, IN, November 2018.
- Johnson, J.K., and Reynolds, S.J., 2018, Teaching deep understanding using concept sketches and concept-sketch portfolios: Webinar, October 2018.
- Reynolds, S.J., and Johnson, J.K., 2018, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: Central Washington University, Ellensburg, WA, October 2018.
- Reynolds, S.J., and Johnson, J.K., 2018, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: University of Texas, El Paso, El Paso, TX, September 2018.
- Johnson, J.K., and Reynolds, S.J., 2018, Teaching deep understanding using concept sketches and concept-sketch portfolios: New Mexico State University, Las Cruces, NM, September 2018.
- Reynolds, S.J., and Johnson, J.K., 2018, Teaching deep understanding using concept sketches and concept-sketch portfolios: El Paso Community College, El Paso, TX, August 2018.
- Johnson, J.K., and Reynolds, S.J., 2018, Teaching deep understanding using concept sketches and concept-sketch portfolios: Western State College, Gunnison, CO: July 2018.
- Johnson, J.K., and Reynolds, S.J., 2018, Teaching deep understanding using concept sketches and concept-sketch portfolios: University of Texas, El Paso, June 2018.
- Reynolds, S.J., and Johnson, J.K., 2018, Construction of Proterozoic continental crust, extreme Cenozoic extension, and great Mexican food (field trip): Phoenix Mountains and South Mountains, AZ: Structural Geology and Tectonics Forum, Tempe, AZ, April 2018.
- Reynolds, S.J., and Johnson, J.K., 2018, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: North Virginia Community College, Annandale, VA, April 2018.
- Reynolds, S.J., and Johnson, J.K., 2018, Field trip to Papago Park, Tempe, AZ: Phoenix Botanical Gardens, March 2018.
- Reynolds, S.J., and Johnson, J.K., 2018, Field trip to the South Mountains: Phoenix Botanical Gardens, March 2018.
- Reynolds, S.J., and Johnson, J.K., 2018, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: Weber State University, Ogden, UT, March 2018.
- Reynolds, S.J., and Johnson, J.K., 2018, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: New Mexico State University, Las Cruces, NM, March 2018.
- Reynolds, S.J., and Johnson, J.K., 2018, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: Webinar, March 2018.
- Johnson, J.K., and Reynolds, S.J., 2018, Teaching deep understanding using concept sketches and concept-sketch portfolios: Wake Tech Community College, Fayetteville, NC, February 2018.
- Reynolds, S.J., and Johnson, J.K., 2018, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: University of North Carolina, Chapel Hill, NC, February 2018.
- Reynolds, S.J., and Johnson, J.K., 2018, Resolving the breath-depth-inquiry dilemma in introductory science courses: Guilford College, Greensboro, NC, February 2018

- Reynolds, S.J., and Johnson, J.K., 2018, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: Lone Star Community College, Tomball campus, February 2018.
- Reynolds, S.J., and Johnson, J.K., 2018, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: University of Houston, Main, February 2018.
- Reynolds, S.J., and Johnson, J.K., 2018, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: University of Houston, Downtown, February 2018.
- Reynolds, S.J., and Johnson, J.K., 2018, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: Western Colorado University, Gunnison, CO January 2018
- Reynolds, S.J., and Johnson, J.K., 2018, Resolving the breath-depth-inquiry dilemma in introductory science courses: Western Colorado University, Gunnison, CO January 2018
- Reynolds, S.J., and Johnson, J.K., 2017, Cognition-guided learning, instruction, and curriculum in introductory geoscience courses: Utah State University, October 2017.
- Reynolds, S.J., and Johnson, J.K., 2017, Perception, visualization, cognition, and learning in college science courses: Idaho State University, October 2017.
- Johnson, J.K., and Reynolds, S.J., 2017, Using concept sketches to gain a deep understanding of important geoscience topics: BYU-Idaho, October 2017.
- Johnson, J.K., and Reynolds, S.J., 2017, Using concept sketches to teach and assess in geography courses, University of Alabama webinar July 2017, October 2017.
- Johnson, J.K., and Reynolds, S.J., 2017, Brainstorm ideas for putting interactive geography lab exercises on Blackboard, University of Alabama webinar July 2017.
- Johnson, J.K., and Reynolds, S.J., 2017, Using concept sketches to teach and assess in geoscience courses, North Idaho University webinar, March 2017
- Johnson, J.K., and Reynolds, S.J., 2017, Using concept sketches to teach and assess in geoscience courses, University of Idaho webinar, February 2017
- Coyan, J.A., Coyan, M.M., Johnson, J.K., Reynolds, S.J., 2017, Using comical online videos with pop-culture references to teach introductory geology: Geological Society of America, Abstracts with Programs, v. 49, no. 6, p. 165
- Rohli, R.V., S.J. Reynolds, J.K. Johnson, P.R. Waylen, and M Francek, 2014: The two-page spread as pedagogy in geography: National Council on Geographic Education Conference, Memphis, Tennessee.
- Johnson, J.K., Reynolds, S.J., Tyburczy, J., Busch, M.M., and Coyan, J.A., 2009, Resolving the breadth versus depth versus inquiry dilemma in introductory college geology courses: Geological Society of America Abstracts with Programs, National Meeting, Paper 49-1.
- Reynolds, S.J., Johnson, J.K., and Kelly, M.M, 2008, Designing Textbooks for Active Learning: McGraw-Hill Physical Geography Symposium, Tucson.
- Johnson, J.K., Reynolds, S.J., and Sharp, T., 2008, Redesigning Introductory Geology Courses at Arizona State University: The Redesign Alliance, Second Annual Conference, Tampa.
- Reynolds, S.J., Johnson, J.K., Morin, P.J., and Kelly, M.M., 2008, Using interactive 3D-media to teach students how to observe and interpret landscapes. Cutting Edge: Teaching Introductory Geoscience Courses in the 21st Century, Carlton, MN
- Reynolds, S.J., Johnson, J.K., Kelly, M.M., Morin, P.J., and Carter, C.M., 2007, Redesigning college geology textbooks based on cognitive and educational research; Geological Society of America Abstracts with Programs, v. 39, no. 6, p. 578.
- Reynolds, S.J., and Johnson, J.K., 2005, Rapid and authentic assessment of student understanding using concept sketches: Geologic Society of America Abstract with Programs, v. 37, no. 7, p. 119.
- Johnson, J.K. and Reynolds, S.J., 2004, Concept sketches - using student- and instructor-generated, annotated sketches for learning, teaching, and assessment in geology courses. Geologic Society of America Abstract with Programs, v. 36, no. 5, p. 56.

- Busch, M.D. and Reynolds, S.J., 2004, College student misconceptions about sedimentary environments and landscape development, *Geologic Society of America Abstract with Programs*, v. 36, no. 5, p. 236.
- Reynolds, S.J., Coyan, J.A., Johnson, J.K., and Leedy, D.E., (2004), Using interactive animations to prepare students for the field, *Geologic Society of America Abstract with Programs*, v. 36, no. 5, p. 347.
- Tewksbury, B.J., Reynolds, S.J., and Johnson, J.K., 2004, Using student-generated concept sketches for learning, teaching, and assessment in structural geology courses, *Geologic Society of America Abstract with Programs*, v. 36, no. 5, p. 347.
- Reynolds, S.J., and Johnson, J.K., 2002, Visualizing geology from geologic maps - time-honored techniques and new technologies: *Geological Society of America Abstracts with Programs*, v. 34, no 6, p. 377.
- Reynolds, S.J., Piburn, M.D., and Johnson, J.K., 2002, Interactive 3D visualizations of geology - creation, use, and assessment: *Geological Society of America Abstracts with Programs*, v. 34, no 6, p. 388.
- Piburn, M.D., Reynolds, S.J., Leedy, D.E., McAuliffe, C., Birk, J.E., and Johnson, J.K., 2002, The Hidden Earth: Visualization of geologic features and their subsurface geometry: *National Association of Research in Science Teaching (NARST) Final Program and Abstracts*, p. 204.
- Reynolds, S.J., Johnson, J.K., and Jones, D.A., 2001, Proterozoic Crustal Evolution in the Phoenix Mountains, Arizona, *Geological Society of America Abstracts with Programs*, v. 33, no. 5, p 4.
- Johnson, J.K. and Reynolds, S.J., 2001, Virtual View of the Southwest in the Classroom: *Geological Society of America Abstracts with Programs*, v. 33, no. 5, p A-3.

Electronic Media

- A metacognitive approach to teaching geologic reasoning (<https://serc.carleton.edu/integrate/workshops/methods2012/essays/reynolds.html>)
- Effective Strategies for Undergraduate Geoscience Teaching Virtual Event Series (<https://serc.carleton.edu/NAGTWorkshops/careerdev/AcademicCareerTeach2013/march.html>)
- SES123 Course Website (<http://reynolds.asu.edu/SES123>): New website to accompany the revised SES123 lab (fall2017). Website includes lab instructions and links to all images, movies, or other websites necessary to complete each lab.
- Interactive 3D Geologic Blocks (<http://reynolds.asu.edu/blocks/>): All movies reformatted from QTVR to mp4 (updated 2016)
- Visualizing Topography (http://reynolds.asu.edu/topo_gallery/): All movies reformatted from QTVR to mp4 (updated 2016)
- ExploringPhysicalGeography.com – Electronic media for introductory geography courses, including media-enabled PowerPoint files, mp4 movies, Google Earth files, and Blackboard and Respondus versions on online quizzes, test pools, and investigations.
- ExploringEarthScience.com – Electronic media for introductory earth science courses, including media-enabled PowerPoint files, mp4 movies, Google Earth files, and Blackboard and Respondus versions on online quizzes, test pools, and investigations.
- ExploringGeology.com – Electronic media for introductory geology courses, including media-enabled PowerPoint files, iView3D files, QTVR movies, Google Earth files, Blackboard and Respondus versions on online quizzes, test pools, and investigations.
- Biosphere3D: Interactive QuickTime Virtual Reality (QTVR) movies of various environmental factors depicted on globes with world topography — <http://reynolds.asu.edu/biosphere3d/>
- AZGEO3D: QTVR movies of the Geologic Map of Arizona draped over digital topography for each 1x1 degree quadrangle in Arizona — <http://reynolds.asu.edu/azgeo3d/>
- AZ Geophysics 3D: QTVR movies of gravity, magnetic, and depth-to-bedrock maps draped over digital topography for each 1x1 degree quadrangle in Arizona — <http://reynolds.asu.edu/azgeophys/>

- Interactive 3D Geologic Blocks: Instructional module based on QTVR movies of geologic structures within geologic blocks — <http://reynolds.asu.edu/blocks/>
- Visualizing Topography: Instructional module with interactive QTVR movies depicting topographic contours, topographic profiles, and other aspects of topography — http://reynolds.asu.edu/topo_gallery/
- Interactive Geologic Maps: Instructional module with interactive QTVR movies of geologic maps and associated materials

Supplemental Activities

- Helped three faculty prepare to teach the large GLG101 introductory courses (2020)
- Taught one geology lesson to an elementary class (02/2020)
- Judge for three science fairs at local elementary and middle schools, Phoenix (02/2020)
- NPR radio interview for local geology history (5/2019)
- Sundial panel participant for incoming SESE undergraduates (08/2019)
- ASU Meet and Greet – ASU outreach lunch for incoming undergraduate students (07/2019)
- Science fair judge for two elementary schools in the Phoenix area (02/2019)
- Sundial panel participant for incoming SESE undergraduates (08/2018)
- Wrote the “short versions” of the geology for donated rock slabs in F-wing (04/2018)
- Science fair judge for three different elementary schools and two junior high schools in the Phoenix area (2018)
- Taught two “geology lessons” to elementary school fifth grade classes (2018)
- CLAS orientation luncheon for incoming SESE undergraduates (04/2018)
- Consulted with geologists at the Copperstone gold mine near Quartzsite, Arizona (02/2018)
- Structure/Tectonics Forum field trip to Phoenix Mountains/South Mountains (01/2018)
- Arizona Geological Survey – Coordinated the preparation of a large collection of previously unpublished maps by the late Phil Anderson (10/2017)
- ASU Meet and Greet – ASU outreach lunch for incoming undergraduate students (07/2018)
- Map Collection, Noble Science Library: Sorted through all of Professor Pewe’s maps and assorted contributions to help the library decide what to keep (2017-2018)
- ASU faculty meeting presentation: Problem-solving in the classroom (02/03/2017)
- Explore More – Helped showcase SESE to potential high school students (02/2016)
- ASU Meet and Greet – ASU outreach lunch for incoming undergraduate students (06/2016)
- Elementary and middle school field trips, mostly to the Phoenix Mountains (2016)
- Elementary and middle school science fair judge for inner city, minority schools (2016)
- Produced true geologic representation of computer-generated 3D animation of the geology of North Mountain for the Phoenix Parks and Recreation North Mountain Interpretive Center (12/2005)
- Wrote chapter and accompanying web site on visualizing the land surface for new Prentice Hall introductory geology lab manual
- Coauthored two papers presented at Geological Society of America national meeting (10/2002) and two at the GSA Rocky Mountain Section meeting (05/01)
- Attended 2002 national meeting of NARST (National Association for Research in Science Teaching) and coauthored two papers presented at meeting
- Led professional field trips to Dreamy Draw Park for the Arizona Geological Society (04/2002) and Arizona Hydrologic Society (09/2001)
- Led geologic field trip for City of Phoenix Parks Department, architects, and planners for a new interpretive center at North Mountain Park (10/2002)
- Led geologic field trips to Dreamy Draw and the South Mountains for the ASU President’s Community Enrichment Program

- Led 4 to 8 other field trips/year for school groups and other organizations
- Helped acquire, synthesize, tabulate, and graphically portray geologic and hydrologic data for a major report on subsurface geology and groundwater of the Phoenix Basin, Arizona
- Helped develop 3D perspectives of landscapes of the Four Corners region, for a book on *Landscapes of the Southwest*
- Helped develop geology demonstrations and coordinate presentations to elementary/middle schools

Teaching Awards

- Undergraduate professor of the year (04/2018)
- ASU Sun Devils' Advocates Apple Polisher award for teaching (04/2018)
- McGraw-Hill Presidents Corporate Achievement Award for Innovation (for Exploring Geology textbook), New York, 2008
- Most Influential Professor, ASU Athletic Department, (Fall 2007)
- Co-Curricular Programs and Activities' Featured Faculty award for December 2005.
- Student Affairs Quality of Student Life award for being a leader and mentor to ASU students (Fall 2004).

Unpublished Reports

- Johnson, J.K., Tyburczy, J.A., Reynolds, S.J., Sharp, T., Hodges, K., Semken, S., 2008, ASU GLG101 Redesign Project – Summer 2008 Interim Report, Arizona Board of Regents' Learner Centered Education Project, National Center for Academic Transformation (NCAT).