

Kevin J. Pugh

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Education

Ph.D. in Educational Psychology, Michigan State University, 2000.

B.S. in Psychology (Geology minor), Brigham Young University, 1994.

Teaching Certification in secondary education (geology, psychology).

Professional Experience

2013-Present, Professor, University of Northern Colorado. Greeley, CO.

2008-2013, Associate Professor, University of Northern Colorado. Greeley, CO.

2006-2008, Assistant Professor, University of Northern Colorado. Greeley, CO.

2000-2006, Assistant Professor, The University of Toledo, Toledo, OH.

1994-1995, Teacher & Curriculum Developer, Knowledge Gain, Orem, UT.

Area of Specialization

Transformative Learning, Motivation, Science Education

I am a founder of transformative experience theory and continue to do research in this area. Transformative experience theory focuses on how in-school learning can enrich out-of-school experience by expanding perception, contributing meaning and value to future experience, and transforming our relationship with the world. It combines ideas from John Dewey's theory of aesthetics and philosophy of education with modern research on motivation, learning transfer, and science education. A major effort of transformative experience theory has been development of the Teaching for Transformative Experiences in Science (TTES) model. For more information, see <https://learningandexperienceblog.wordpress.com/transformative-experience>.

Scholarship

Publications

Books

Pugh, K. J. (2020). *Transformative science education: Change how your students experience the world*. New York: Teachers College Press.

Pugh, K. J. (2017). *Computers, cockroaches and ecosystems: Understanding learning through metaphor*. Charlotte, NC: Information Age Publishing.

Juried

- Cropp, S., Pugh, K. J., Bergstrom, C. M., & Kriescher, D. (2022). Seeing science: Using mobile technology to make learning transformative. *Journal of Computers in Math and Science Teaching*, 41(2), 85-108.
- Fairchild, E., Newman, H., Sexton, J., Pugh, K., & Riggs, E. (2022). "Not to be stereotypical but...". Exclusive and inclusive gendered discourses about geology field experiences. *The Journal of Gender Studies*, 31(4), 492-504. doi:10.1080/09589236.2021.1924644
- Carver, A. P., Garner, J. K., Kaplan, A., & Pugh, K. J. (2021). Visitors' attendance motivation and meaning making at a public science event. *International journal of Science Education, Part B*, 11(1), 75-89. <https://doi.org/10.1080/21548455.2021.1874620>
- Goldman, J., Cavazos, J., Heddy, B. C., & Pugh, K. J. (2021). Emotions, values, and engagement: Understanding motivation of first-generation college students. *Scholarship of Teaching and Learning in Psychology, Advance online publication*, 1-15. doi:10.1037/stl0000263
- Pugh, K. J., Paek, S. H., Phillips, M. M., Sexton, J. M., Bergstrom, C. M., Flores, S. D., & Riggs, E. M. (2021). Predicting academic and career choice: The role of transformative experience, connection to instructor, and gender accounting for interest/identity and contextual factors. *Journal of Research in Science Teaching*, 58(6), 822-851. doi:10.1002/tea.21680
- Pugh, K., Kriescher, D., Cropp, S., & Younis, M. (2020). Philosophical groundings for a theory of transformative experience. *Educational Theory*, 70(5), 539-560. doi:10.1111/edth.12443
- Sexton, J., Newman, H., Bergstrom, C., Pugh, K., & Riggs, E. (2020). Multisite investigation of sexist experiences encountered by undergraduate female geology students. *International Education Journal of Gender, Science and Technology*, 12(3), 354-376. <http://genderandset.open.ac.uk/index.php/genderandset/article/view/669>
- Pugh, K. J., Phillips, M., Sexton, J., Bergstrom, C., & Riggs, E. (2019). A quantitative investigation of geoscience department factors associated with recruitment and retention of female students. *Journal of Geoscience Education*, 67(3), 266-284. doi:10.1080/10899995.2019.1582924
- Sexton, J. M., Pugh, K. J., Bergstrom, C. M., & Riggs, E. M. (2018). Reasons undergraduate students majored in geology across six universities: The importance of gender and department. *Journal of Geoscience Education*, 66(4), 319-336. doi:10.1080/10899995.2018.1507546
- Koskey, K., Stewart, V., Sondergeld, T., & Pugh, K. J. (2018). Applying the mixed methods instrument development and construct validity process: The case of the transformative experience questionnaire. *Journal of Mixed Methods Research*, 12, 95-122. doi:10.1177/1558689816633310
- Pugh, K. J., Bergstrom, C. M., & Spencer, B. (2017). Profiles of transformative engagement: Identification, description, and relation to learning and instruction. *Science Education*, 101, 369-398. doi:10.1002/sce.21270
- Pugh, K. J., Bergstrom, C. R., Heddy, B. C., & Krob, K. E., (2017). Supporting deep engagement: The Teaching for Transformative Experience in Science (TTES) Model. *Journal of Experimental Education*, 85, 629-657. doi:10.1080/00220973.2016.1277333
- Garner, J. K., Kaplan, A., & Pugh, K. J. (2016). Museums as contexts for transformative experiences and identity development. *Journal of Museum Education*, 41, 341-352. doi:10.1080/10598650.2016.1199343
- Bergstrom, C., Pugh, K. J., Phillips, M., & Machlev, M. (2016). Effects of problem-based learning on recognition learning and transfer accounting for GPA and goal orientation. *Journal of Experimental Education*, 84, 764-786. doi:10.1080/00220973.2015.1083521

- Pugh, K. J., Koskey, K. L. K., & Linnenbrink-Garcia, L. (2014). High school biology students' transfer of the concept of natural selection: A mixed methods approach. *Journal of Biological Education*, 48, 23-33. doi:10.1080/00219266.2013.801873
- Linnenbrink-Garcia, L., Pugh, K. J., Koskey, K. L. K., & Stewart, V. (2012). Developing conceptual understanding of natural selection: The role of interest, efficacy, and basic prior knowledge. *Journal of Experimental Education*, 80, 45-68.
- Pugh, K. J. (2011). Transformative experience: An integrative construct in the spirit of Deweyan pragmatism. *Educational Psychologist*, 46, 107-121.
- Pugh, K. J., & Phillips, M. M. (2011). Helping students develop an appreciation for school content. *Theory into Practice*, 50, 285-292.
- Pugh, K. J., Linnenbrink-Garcia, E. A., Koskey, K. L. K., Stewart, V. C., & Manzey, C. (2010). Teaching for transformative experiences and conceptual change: A case study and evaluation of a high school biology teacher's experience. *Cognition and Instruction*, 28, 273-316.
- Pugh, K. J., Linnenbrink-Garcia, L., Koskey, K. L. K., Stewart, V. C., & Manzey, C. (2010). Motivation, learning, and transformative experience: A study of deep engagement in science. *Science Education*, 94, 1-28.
- Pugh, K. J., & Girod, M. (2007). Science, art and experience: Constructing a science pedagogy from Dewey's aesthetics. *Journal of Science Teacher Education*, 18, 9-27.
- Pugh, K. J. & Bergin, D. A. (2006). Motivational influences on transfer. *Educational Psychologist*, 41, 147-160.
- Pugh, K. J. & Bergin, D. A. (2005). The effect of education on students' out-of-school experience. *Educational Researcher*, 34(9), 15-23.
- Pugh, K. J. (2004). Newton's laws beyond the classroom walls. *Science Education*, 88, 182-96.
- Pugh, K. J., & Zhao, Y. (2003). Stories of teacher alienation: A look at the unintended consequences of a bottom-up reform. *Teaching and Teacher Education*, 19, 187-201.
- Pugh, K. J. (2002). Teaching for transformative experiences in science: An investigation of the effectiveness of two instructional elements. *Teachers College Record*, 104, 1101-1137.
- Zhao, Y., Pugh, K., Byers, J., & Sheldon, S. (2002). Conditions for classroom technology innovations. *Teachers College Record*, 104, 482-515.
- Wong, E. D., Pugh, K. J., & The Dewey Ideas Group at Michigan State University. (2001). Learning science: A Deweyan perspective. *The Journal of Research in Science Teaching*, 38, 317-336.
- Zhao, Y., Byers, J., Mishra, P., Topper, A., Chen, H., Enfield, M., Ferdig, R., Frank, K., Pugh, K., & Tan, S. H. (2001). What do they know? A comprehensive portrait of exemplary technology-using teachers. *Journal of Computing in Teacher Education*, 17(2), 24-36.
- Wong, E. D., Packard, B., Girod, M., & Pugh, K. J. (2000). The opposite of control: A Deweyan perspective on intrinsic motivation in "After 3" technology programs. *Computers in Human Behavior*, 16, 313-338.

Proceedings:

- Dolgoft, J., Lipscomb, G. G., Pugh, K., Beltyukova, S., & Pinto, N. (2003). *Experiments in membrane separation processes delivered through the Internet*. Proceedings of the American Society for Engineering Education Annual Conference, Nashville, TN.

Non-Juried

- Pugh, K. J. (2021). Motivation Calvin: Using problem-based learning to teach motivation. In D. K. Meyer & A. Emery (Eds.), *Teaching motivation for student engagement* (pp. 213-236). Information Age Publishing.
- Pugh, K. J., Bergstrom, C. M., Olson, C., & Kriescher, D. (2021). Transformative experience: A motivational perspective on transfer. In C. Hohensee & J. Lobato (Eds.), *Transfer of Learning: Progressive perspectives for mathematics education and related fields* (pp. 297-314). Cham, CH: Springer.
- Pugh, K. J., Engle-Newman, C., Cropp, S., & Younis, M. (2020). Transformative learning within cultural spaces: Transformative experience interventions through the lens of culturally relevant pedagogy. In G. A. D. Liem & D. M. McInerney (Eds.), *Promoting motivation and learning in contexts: Sociocultural perspectives on educational interventions* (pp. 173-200). Information Age.
- Pugh, K. J., Bergstrom, C. M., Wilson, L., Geiger, S., Goldman, J., Heddy, B. C., . . . Kriescher, D. (2019). Transformative experience: A critical review and investigation of individual factors. In J. M. Spector, B. B. Lockee, & M. D. Childress (Eds.), *Learning, design, and technology: An International compendium of theory, research, practice, and policy* (pp. 1-36). Cham, CH: Springer. doi:10.1007/978-3-319-17727-4_155-1
- Heddy, B. C., & Pugh, K. J. (2015). Bigger is not always better: Should educators aim for big transformative learning events or small transformative learning experiences? *Journal of Transformative Learning*, 3, 52-58.
- Pugh, K. J., Linnenbrink-Garcia, L., Phillips, M., & Perez. (2015). Supporting the development of transformative experience and interest. In K. A. Renninger, M. Nieswandt, & S. Hidi (Eds.), *Interest in mathematics and science learning* (pp. 369-383). Washington, DC: AERA.
- Wong, D., & Pugh, K. (2015). Dewey and the learning of science. In R. Gunstone (Ed.), *Encyclopedia of Science Education* (pp. 304-309). New York: Springer. doi:10.1007/978-94-007-2150-0_518
- Zhao, Y., Byers, J., Pugh, K., & Sheldon, S. (2001). What's worth looking for? Issues in educational technology research. In W. Heineke & J. Willis (Eds.), *Research methods for educational technology: Vol. 1 Methods of evaluating educational technology* (pp. 269-296). Greenwich, CT: Information Age.
- Pugh, K. J. (2000). Creativity and metaphoric thinking. *Folklore Forum*, 31(1), 53-54.

Reviews:

- Pugh, K. J. (2006). [Review of the book *Aesthetic experience in science education: Learning and meaning-making as situated talk and action*]. *Science Education*, 90, 956-959.
- Prawat, R. S., & Pugh, K. J. (1998). [Review of the book: *School didactics and learning*]. *American Journal of Education*, 106, 583-586.

Dissertation:

- Pugh, K. J. (2000a) *Idea-based, transformative experiences in science: What are they and how do you foster them?* Ph.D dissertation, Michigan State University.

Professional Presentations

- Kriescher, D. P. J., & Pugh, K. J. (2022, April). Influence of formative assessment on mindset development [Conference Presentation]. *American Educational Research Association Annual Conference, San Diego, CA*.
- Manzanares, A. D., Anderson, S. W., Jameson, M. M., Pugh, K. J., Romulo, C. L., & Hoyt, W. (2022, April). Cognitive and affective themes of novice geologists regarding minerals [Conference Presentation]. *Rocky Mountain Psychological Association Annual Conference, Salt Lake City, UT*.

- Pugh, K. J. (2022, July). Transformative science education: Enrich your students' lives with science [Conference Presentation]. *NSTA National Conference on Science Education, Chicago, IL.*
- Pugh, K. J. (2022, March). Transformative science education: A review of transformative experience theory [Conference Presentation]. *National Association for Research in Science Teaching Annual International Conference, Vancouver, BC, CA.*
- Younis, M., Bergstrom, C. M., & Pugh, K. J. (2022, April). Ed psych close-up: Exploring the use of PhotoVoice pedagogy to foster transformative learning among preservice teachers [Conference Presentation]. *American Educational Research Association Annual Conference, San Diego, CA.*
- Manzanares, A. D., Horne, L. R., Pugh, K. J., Jameson, M. M., Anderson, S. W., & Romulo, C. L. (2021, May). *Conceptual change in food, energy, water (FEW) concepts: The role of interest, self-efficacy, and transformative experience* [Poster presentation]. Association for Psychological Science Virtual Convention.
- Pugh, K. J., Kriescher, D. P. J., Tocco, A. J., Olson, C., Bergstrom, C. M., Younis, M., & BenSalem, M. (2021, April). *The seeing science project: Using design-based research to develop a transformative learning intervention.* [Conference presentation]. American Educational Research Association Virtual Annual Conference.
- Royse, E. A., Kriescher, D., Pugh, K. J., & Holt, E. A. (2020, July). Science identity, transformative experiences, and cell biology intersections in undergraduate Anatomy and Physiology [Poster Session]. *Society for the Advancement of Biology Education Research Annual Meeting, Minneapolis, MN.*
- Olson, C., Pugh, K. J., Bergstrom, C. M., Cropp, S., Kriescher, D., Younis, M., & Ben Salem, M. (2020, April). Seeing science: Investigating a mobile technology-based intervention designed to foster transformative experiences [Poster Session]. *AERA Annual Meeting, San Francisco, CA.*
<http://tinyurl.com/wxekebr> (Conference Canceled)
- Pugh, K. J., Kriescher, D. P. J., Cropp, S., & Younis, M. (2019, October). Philosophical groundings for a theory of transformative experience. *Paper presented at the North American Association for Philosophy & Education, Mundelein, IL.*
- Cropp, S., Pugh, K. J., Bergstrom, C. M., Kriescher, D., & Wilson, L. (2019, April). Seeing science: Using mobile technology to make learning transformative. *Paper presented at the American Educational Research Association annual conference, Toronto, CA.*
- Garner, J. K., Carver, A., Pugh, K., & Kaplan, A. (2018, October). "Once in a lifetime" opportunities: Visitors' meaning making during the 2017 solar eclipse. *Paper presented at the Association of Science and Technology Centers, Hartford, CT.*
- Goldman, J., Heddy, B. C., Pugh, K. J., Wilson, L., & Cavazos, J. (2018, April). Examining first-generation college students' emotions and values in response to transformative experience. *Presentation at the American Educational Research Association annual conference, New York, NY.*
- Pugh, K. J. (2018, April). Internet, ecosystem, cultural tools: Teaching learning theory through metaphor. *Presentation at the American Educational Research Association annual conference, New York, NY.*
- Pugh, K. J., Phillips, M. M., Sexton, J., Bergstrom, C. M., & Riggs, E. M. (2018, April). Support for females in STEM: An investigation of more and less successful departments. *Paper presented at the American Educational Research Association annual conference, New York, NY.*
- Geiger, S., Pugh, K. J., & BenSalem, M. (2017, April). Predicting transformative experience: Role of personality and interest. *Paper presented at the American Educational Research Association annual conference, San Antonio, TX.*

- Goldman, J., Wilson, L., Cavazos, J., Heddy, B. C., & Pugh, K. J. (2017, August). Relationship between transformative experience and academic emotions in an introductory psychology course. *Paper presented at the annual meeting of the American Psychological Association, Washington, DC.*
- Wilson, L., Pugh, K. J., Heddy, B., Goldman, J., & Craig, B. (2017, October). Emotion and value profiles differentially predict deep engagement. *Paper presented at the Southwest Consortium for Innovative Psychology in Education, Las Vegas, NV.*
- Pugh, K. P., Phillips, M. M., Sexton, J., Bergstrom, C., Flores, S., & Riggs, E. (2016, April). Motivational and classroom predictors of academic and career choice in the geosciences. *Paper presented at the American Educational Research Association annual conference, Washington, DC.*
- Garner, J. K., Pugh, K. J., & Kaplan, A. (2016, April). Museum visitor identification and engagement with science (VINES): A theory-driven process for designing transformational experiences. *Paper presented at the American Educational Research Association annual conference, Washington, DC.*
- Bergstrom, C. M., & Pugh, K. J. (2015, April). Course-level and project-level goal orientations: Importance of level of analysis. *Paper presented at the American Educational Research Association annual conference, Chicago, IL.*
- Bergstrom, C. M., & Pugh, K. J. (2015, April). The impact of goal orientation on learning and engagement in a problem-based learning unit. *Paper presented at the American Educational Research Association annual conference, Chicago, IL.*
- Pugh, K. J., Phillips, M. M., Sexton, J., Bergstrom, C. M., & Riggs, E. M. (2015, April). Academic and career choice: Investigating the roles of motivation, institution, relationships, transformative experience, and gender. *Paper presented at the American Educational Research Association annual conference, Chicago, IL.*
- Pugh, K. J., Phillips, M. M., Sexton, J., Bergstrom, C. M., & Riggs, E. M. (2015, April). Predicting transformative experience: The role of the student-teacher dynamic. *Paper presented at the American Educational Research Association annual conference, Chicago, IL.*
- Riggs, E.M., J.M. Sexton, K. Pugh, C. Bergstrom, R. Parmley & M. Phillips (2014, December). Gender in the Geosciences: Factors Supporting the Recruitment and Retention of Women in the Undergraduate Major. *Presentation given at the American Geophysical Union fall meeting, San Francisco, CA.* Abstract ED43A-3461
- Bergstrom, C., Sexton, J. M., Parmley, R., Riggs, E., & Pugh, K. J. (2014, October). Gender in the geosciences: Departmental gender-equity culture and the recruitment and retention of female undergraduate students. *Presentation given at the Geological Society of America annual meeting, Vancouver, BC, CA.*
- Pugh, K. J., Phillips, M. P., Bergstrom, C., Sexton, J. M., & Riggs, E. (2014, October). Gender in the geosciences: Factors related to academic and career choice. *Presentation given at the Geological Society of America annual meeting, Vancouver, BC, CA.*
- Pugh, K. J., Phillips, M. P., Bergstrom, C., Sexton, J. M., & Riggs, E. (2014, October). Supporting transformative learning in the geosciences: Investigating the relation between the teacher-student dynamic and transformative experiences. *Presentation given at the Geological Society of America annual meeting, Vancouver, BC, CA.*
- Sexton, J. M., Bergstrom, C., Parmley, R., Riggs, E., & Pugh, K. J. (2014, October). Gender in the geosciences: Model of departmental practices associated with the recruitment and retention of female undergraduate students. *Presentation given at the Geological Society of America annual meeting, Vancouver, BC, CA.*
- Pugh, K. J. (2014, June). Passion, action, and transformation: A theory of transformative experience. *PechaKucha presentation at the International Motivation Conference, Helsinki, FI.*
- Pugh, K. J., & Bergstrom, C. M. (2014, June). Why some students undergo transformative experiences and others do not: Current research and future directions. *Paper presented at the International Motivation Conference,*

Helsinki, FI.

- Pugh, K. J., Phillips, M. M., Bergstrom, C., Sexton, J., & Riggs, E. M. (2014, April). Motivation, instructor-student relationship, and transformative experience as predictors of academic and career choice in geoscience. *Paper presented at the American Educational Research Association annual conference, Philadelphia, PA.*
- Wong, E. D., Pugh, K. J., & Greenberg, D. (2014, April). Charting Dewey's influence on contemporary scholarship in science education journals (1992-2012). *Paper presented at the American Educational Research Association annual conference, Philadelphia, PA.*
- Pugh, K. J. (2013, July). Having the journey: Physics education and transformative experiences. *Invited address presented at the Physics Education Research and American Association of Physics Teachers conferences, Portland, OR.*
- Pugh, K. J., & Bergstrom, C. (2013, April). Transformative experience: A Deweyan and motivational perspective on transfer. *Paper presented at the American Educational Research Association annual conference, San Francisco, CA.*
- Pugh, K. J., Diaz, A., & Machlev, M. (2013, April). Motivation profiles as predictors of learning and engagement. *Paper presented at the American Educational Research Association annual conference, San Francisco, CA.*
- Bergstrom, C., Sexton, J. M., Parmley, R., Riggs, E. M., Pugh, K. (2013, October). Gender in the geosciences: What students like and dislike about courses and faculty. *Presentation given at the annual meeting of the Geological Society of America, Denver, CO.*
- Parmley, R., Sexton, J. M., Bergstrom, C., Riggs, E. M., Pugh, K. (2013, October). Gender in the geosciences: Experiences of female and male students in two geoscience departments. *Presentation given at the annual meeting of the Geological Society of America, Denver, CO.*
- Pugh, K. J., Bergstrom, C., & Phillips, M. P., Sexton, J. M., & Riggs, E. M. (2013, October). Gender in the geosciences: Factors related to the recruitment and retention of women. *Presentation given at the Geological Society of America annual meeting, Denver, CO.*
- Sexton, J. M., Bergstrom, C., Parmley, R., Riggs, E. M., Pugh, K., & Phillips, M. (2013, October). Gender in the geosciences: What attracts students to a geoscience major? *Presentation given at the annual meeting of the Geological Society of America, Denver, CO.*
- Flores, S., & Pugh, K. J. (2013, April). Transformative effect of an intervention program for low-income, minority students. *Paper presented at the Rocky Mountain Psychological Association annual conference, Denver, CO.*
- Koskey, K. L. K., Sondergeld, T., Stewart, V. C., Vuchek, K., & Pugh, K. J. (2013, April). Scaffolding and assessing students' engagement with science content extending from inside to outside the classroom. *Workshop presented at the NSTA National Conference on Science Education, San Antonio, TX.*
- Phillips, M. M., Pugh, K. J., Machlev, M., & Bergstrom, C. M. (2012, April). Exploring interest and goal orientation in a problem-based learning environment. *Paper presented at the American Educational Research Association annual conference, Vancouver, BC, CAN.*
- Pugh, K. J., Phillips, M. M., Bergstrom, C. M., & Machlev, M. (2012, April). Problem-based learning, goal orientation, and learning success. *Paper presented at the American Educational Research Association annual conference, Vancouver, BC, CAN.*
- Schmidt, K. E., Allen, W. B., & Pugh, K. J. (2012, April). Teaching for transformative experiences: Challenges, benefits, and teacher change. *Paper to be presented at the American Educational Research Association annual conference, Vancouver, BC, CAN.*
- Baum, S., & Pugh, K. J. (2011, April). Immigration-related depression: Varying relations of acculturation and stress

by gender. *Paper presented at the Rocky Mountain Psychological Association annual conference, Salt Lake City, UT.*

Pugh, K. J., Bergstrom, C., & Spencer, B. (2011, April). Profiles of engagement: An investigation of transformative learning experiences. *Paper presented at the Rocky Mountain Psychological Association annual conference, Salt Lake City, UT.*

Pugh, K. J., Schmidt, K., Russell, C., & Heddy, B. (2010, April). Fostering transformative experiences in science: A design-based study. *Paper presented at the American Educational Research Association annual conference, Denver, CO.*

Russell, C., & Pugh, K. J. (2010, April). Goal orientation and performance in a problem-based learning environment. *Paper presented at the American Educational Research Association annual conference, Denver, CO.*

Linnenbrink-Garcia, L. & Pugh, K. J. (2009, April). Changing students' conceptions of natural selection: The role of individual interest. *Paper presented at the American Educational Research Association annual conference, San Diego, CA.*

Pugh, K. J., Schmidt, K., Koski, K., & Heddy, B. (2009, April). Motivation as a goal in its own right: One teacher's experience in teaching for transformative experiences. *Paper presented at the American Educational Research Association annual conference, San Diego, CA.*

Russell, C., Schmidt, K., & Pugh, K. J. (2009, November). Teaching for transformative experiences: A collaboration with a local 6th grade science teacher. *Poster presented at Engaging Community Together, University of Northern Colorado, Greeley, CO.*

Koskey, K. L. K., Stewart, V. C., Pugh, K. J., & Linnenbrink-Garcia, L. (2008, March). An investigation of a measure of transformative experience: Assessing in-class and out-of-class engagement. *Paper presented at the American Educational Research Association annual conference, NY.*

Pugh, K. J., Linnenbrink, E. A., Kelly, K. L., Manzey, C., & Stewart, V. C. (2007, April). Learning to teach for conceptual change and transformative experience. *Paper presented at the American Educational Research Association annual conference, Chicago, IL.*

Pugh, K. J., Manzey, C., Linnenbrink, E. A., Stewart, V. C., & Kelly, K. L. (2007, April). Transfer of the concept of Natural Selection. *Paper presented at the American Educational Research Association annual conference, Chicago, IL.*

Girod, M., Pugh, K. J., & Pardales, M. J. (2007, April). A descriptive study of helping teachers learn to teach for transformative, aesthetic experiences. *Paper presented at the American Educational Research Association annual conference, Chicago, IL.*

Linnenbrink-Garcia, E. A., Pugh, K. J., Kelly, K. L., Stewart, V. C., & Manzey, C. (2007, March). Developing conceptual understanding and engagement in high school biology: The role of interest, efficacy, and prior knowledge. *Paper presented at the biannual meeting of the Society for Research on Child Development, Boston, MA.*

Manzey, C., Pugh, K. J., Kelly, K., & Stewart, V. (2006, June). Misconceptions in natural selection: Conceptual change through time in Biology classrooms. *Paper presented at the 7th International Conference of the Learning Sciences, Bloomington, IN.*

Pugh, K. J., Linnenbrink, E. A., Kelly, K., Manzey, C., & Stewart, V. (2006, April). Motivation, learning, and transformative experience: A study of deep engagement in science. *Paper presented at the American Educational Research Association annual conference, San Francisco, CA.*

- Pugh, K. J., & Girod, M. (2005, April). Transformative experience: Conceptualization, illustration, and pedagogy. *Paper presented at the American Educational Research Association Annual Conference, Montréal, QC.*
- Pugh, K., Kleshinski, O., Linnenbrink, E. A., & Fox, C. M. (2004, April). Transformative experiences in science: Using Rasch to develop a quantitative measure. *Paper presented at the American Educational Research Association Annual Conference, San Diego, CA.*
- Pugh, K. J., & Bergin, D. (2003, April). Motivation and transfer: A critical review. *Paper presented at the American Educational Research Association Annual Conference, Chicago, IL.*
- Girod, M., Cavanaugh, S., Pardales, M., Wong, D., Pugh, K. (2003, April). Leveling the playing field: Teaching and learning science for aesthetic understanding. *Paper presented at the American Educational Research Association Annual Conference, Chicago, IL.*
- Pugh, K. J., & Girod, M. (2002, April). What Dewey's aesthetics has to offer education. *Paper presented at the American Educational Research Associations Annual Conference, New Orleans, LA.*
- Pugh, K. J., & Bergin, D. (2002, April). Review of the literature on the effect of education on students' out-of-school experience. *Paper presented at the American Educational Research Associations Annual Conference, New Orleans, LA.*
- Pugh, K. J. (2001, April). Using concepts to foster enriched experiences in students' everyday lives. *Paper presented at the American Educational Research Association conference, Seattle, WA.*
- Pugh, K. J. (2001, March). Vygotskian and Deweyan perspectives on conceptual change. *Paper presented at the National Association for Research in Science Teaching conference, Saint Louis, MO.*
- Pugh, K. J., & Zhao, Y. (2001, April). Stories of teacher alienation: A look at the unintended consequences of a bottom-up reform. *Paper presented at the American Educational Research Association conference, Seattle, WA.*
- Wong, E. D., Packard, B., Girod, M., & Pugh, K. J. (2000, April). The opposite of control: A Deweyan perspective on intrinsic motivation in "After 3" technology programs. *Paper presented at the American Educational Research Association conference, New Orleans, LA.*
- Wong, E. D., Pugh, K. J. (2000, April). Learning science: A Deweyan perspective. *Paper presented at the National Association for Research in Science Teaching conference, New Orleans, LA.*
- Zhao, Y., Pugh, K. J., Sheldon, S., & Byers, J. (2000, April). Top-down, bottom-up, or somewhere in between: An evaluative study of teacher initiated classroom technology innovations supported by a state grant program. *Paper presented at the American Educational Research Association conference, New Orleans, LA.*
- Pugh, K. J. (1999, April). A Deweyan view on the moral function of disciplinary ideas. *Paper presented at the American Educational Research Association Conference, Montreal, Canada.*
- Pugh, K. J. (1999, April). From an experience to idea-based experience: Applying Dewey's aesthetics to education. *Paper presented at the American Educational Research Association conference, Montreal, Canada.*
- Pugh, K. J. (1999, March). The undergoing of an idea-based experience: Its significance and relation to other types of engagement. *Paper presented at the National Association for Research in Science Teaching conference, Boston, MA.*
- Wong, E. D., Pugh, K. J., Worthington, V., Girod, M., Packard, B., & Thomas, T. (1999, April). Documentary film as educational research. *Paper presented at the American Educational Research Association, Montreal, Canada.*
- Pugh, K. (1998, April). Seeing the world anew: A case study of ideas, engagement, and transfer in a three year old. *Paper presented at the American Educational Research Association Conference, San Diego, CA.*

Grants & Awards

Funded Projects

- Bergstrom, C. M. (PI), & Pugh, K. J. (Co-PI) (2022). Seeing science projects: Collaborating to foster transformative experiences and identity exploration in classrooms. *University of Northern Colorado*, Award Amount: \$8,000.
- Pugh, K. J. (PI), & Bergstrom, C. M. (Co-PI). (2019). Can mobile technology support transformative science learning? An evaluation of the Seeing Science project. *University of Northern Colorado*, Award Amount: \$4,150.
- Pugh, K. J. (PI), & Bergstrom, C. M. (Co-PI). (2018). Seeing Science: Using Mobile Technology to Foster Transformative Learning. *University of Northern Colorado*. Award Amount: \$4,659.
- Kraver, J., Pugh, K. J., Bentz, A., Bailey, S., & Torrez, S. (2015). Motivating and retaining the murky middle: A social-psychological intervention. *University of Northern Colorado*. Award Amount: \$48,907.
- Pugh, K. J. (2014). Provost Award for Travel. *University of Northern Colorado*. Award Amount: \$2,979.
- Sexton, J. (PI), Pugh, K. J. (Co-PI), & Riggs, E. (Co-PI). (2012). GSE/RES Collaborative research: Recruitment and retention of women in geosciences: An investigation of individual and environmental factors. *National Science Foundation*. Award Amount: \$431,555. Award no.: HRD-1136233.
- Pugh, K. J. (2012). Computers, cockroaches, and ecosystems: Understanding learning through metaphor. *University of Northern Colorado, Summer Support Initiative*. Award Amount: \$2,997.
- Pugh, K. J. (2011). Professional development in transformative learning. *University of Northern Colorado, Provost Research and Dissemination Award*. Award Amount: \$2,523.
- Pugh, K. J. (2008). A design-based approach to fostering transformative learning in middle school science. *REDI Fellowship Program, University of Northern Colorado*. Amount of award: \$20,000.
- Pugh, K. J. (2007). Fostering transformative learning in 6th grade science. *Faculty Research and Publications Board, University of Northern Colorado*. Amount of award: \$859.
- Linnenbrink, E. A. (PI), & Pugh, K. J. (Co-PI) (2005). Conceptual change, transfer, and transformative experience in science: The role of motivational factors. *Jacobs Foundations*. Amount of award: \$40,356.
- Pugh, K. (2003). Measuring transformative experience. *The University of Toledo Summer Research Award and Fellowship Program*. Amount of award: \$9,030.
- Lipscomb, G. (PI), Pugh, K. (Co-PI), & Fox, C (Co-PI). (2002). Internet-based unit operations laboratories. *National Science Foundation*. Amount of award: \$146,829. Award #: 0126910.

Pending

- Pugh, K. J. (PI), Makki, N. (Co-PI), & Koskey, K. (Co-PI) (under review). Collaborative research: Design and research of a teacher professional development and Seeing Science app for Teaching for Transformative Experiences in Science (TTES). *National Science Foundation*. Requested amount: \$624,091*
*UNC portion of the budget. Total requested amount = \$2,130,257.
- Romulo, C. L. (PI), Anderson, S. W. (Co-PI), Pugh, K. J. (Co-PI), & Paek, S. H. (Co-PI). (under review). Developing a food-energy-water placed-based, transformative learning module framework for undergraduate courses. *National Science Foundation*. Amount Requested: \$2,191,627.28.

Submitted but not Funded

- Kaplan, A. (PI), Garner, J. K. (Co-PI), & Pugh, K. J. (Co-PI) (2018). Collaborative research: Visitor identification and engagement with STEM (VINES). *National Science Foundation*.
- Pugh, K. J. (PI), Sexton, J. (Co-PI), & Phillips, M. (2010). Collaborative research: The impact of gender on pursuing geoscience degrees in college. *National Science Foundation*.
- Elkins, J. (PI), Pugh, K. J. (Co-PI), & Anderson, S. (2010). Project WEST (Wilderness Experiences for Science Teachers). *National Science Foundation*.
- Pugh, K. J. (2010). Professional Development in Transformative Learning. *University of Northern Colorado, Provost Fund for Faculty Scholarship and Professional Development*.
- Pugh, K. J. (2009). Understanding student motivation through action research. *NEA Foundation*.
- Pugh, K. J. (2008). Fostering transformative experiences in middle school science: A design-based study. *Spencer Foundation*.
- Pugh, K. J. (2006). Teaching for transformative experience and conceptual change. *Spencer Foundation*.
- Pugh, K. J., Linnenbrink, E. A., & Rop, C. (2004). Conceptual change, transfer and transformative experience: The role of motivational factors. *National Science Foundation*.

Creative Works

- Pugh, K. J. (2019). *The big ideas of motivation: Relevant theories and implications*. (Design by Alsukairi, Z.) University of Northern Colorado. Infographic available at: <https://learningandexperienceblog.wordpress.com/2019/09/>.
- Pugh, K. J. Transformative experience theory website: <https://learningandexperienceblog.wordpress.com/transformative-experience>.
- Pugh, K. J. Learning and experience blog: <https://learningandexperienceblog.wordpress.com>.

Teaching

University of Northern Colorado, School of Psychological Sciences (2006-present)

Courses Taught:

- PSY 341 “Principles of Learning”
- PSY 347 “Educational Psychology for Elementary Teachers”
- PSY 349 “Educational Psychology for Secondary Teachers”
- PSY 443 “Motivation”
- PSY 500 “Educational Psychology for Teachers”
- PSY 540 “Theories and Principles of Learning”
- PSY 595 “Museum Exhibit Design: A Service-Learning Course”
- PSY 595 “Critical Issues in Educational Psychology”
- PSY 644 “Motivation in Education”
- PSY 661 “Trends and Issues in Educational Psychology”
- PSY 682 “Cognition and Instruction II”
- PSY 695 “Special Topics: Transformative Learning”
- PSY 705 “Proseminar in Doctoral Studies”
- HON 351 “Junior Honors Seminar”

Courses Developed:

- PSY 247 “Adolescent Learning and Motivation”
- Online version of PSY 347 “Educational Psychology for Elementary Teachers”
- Online version of PSY 349 “Educational Psychology for Secondary Teachers”
- PSY 500 “Educational Psychology for Teachers”
- PSY 644 “Motivation in Education”
- Online version of PSY 644 “Motivation in Education”
- PSY 705 “Proseminar in Doctoral Studies”

Special Topics Courses Developed:

- PSY 595 “Museum Exhibit Design: A Service Learning Course”
- PSY 595 “Critical Issues in Educational Psychology”
- PSY 695 “Special Topics: Transformative Learning”

The University of Toledo, Foundations of Education (2000-2006)

Courses Taught:

- EDP 3200 “Applied Psychology for Teachers”
- EDP 3280 “Foundations of Teaching and Learning”
- EDP 4990 “Adolescent Development and Learning”
- EDP 5/7110 “Basic Educational Psychology”
- EDP 5310 “Issues and Innovations in Learning and Instruction”
- EDP 5/7320 “Instructional Psychology”
- EDP 6/8140 “Motivation Theory/Application”
- EDP 6/8340 “Theories of Learning”
- EDP 8190 “Proseminar in Foundations of Education”
- EDP 6/8360 “Thinking and Reasoning in School Contexts”

Courses Developed:

- EDP 8190 “Proseminar in Foundations of Education”

Special Topics Courses:

- EDP 6/8190 “Advanced Topics in Cognition and Instruction: Cognition and Technology”

Michigan State University, Counseling, Educational Psychology, and Special Education (1995-1996)

Courses Taught:

- TE 150 “Reflections on Learning”

Service

Professional Service

Program Co-Chair, American Educational Research Association, Division C, Section 1d: Science, 2016-2018.

Journal of Experimental Education, Editorial Board, 2011-present.

American Educational Research Journal, Editorial Board, 2018-2020.

Ad hoc reviewer for the following journals:

- *Education & Culture*
- *Educational Evaluation and Policy Analysis*
- *Educational Psychologist*

- *Educational Psychology*
- *Educational Psychology: An International Journal of Experimental Educational Psychology*
- *Instructional Science*
- *International Journal of Science Education*
- *Journal of Educational Psychology*
- *Journal of Engineering Education*
- *Journal of Geoscience Education*
- *Journal of the Learning Sciences*
- *Journal of Research in Science Teaching*
- *Learning and Individual Differences*
- *Pedagogies: An International Journal*
- *Science Education*
- *Science & Education*
- *Teachers College Record*
- *Teaching and Teacher Education*

American Education Research Association, Reviewer for annual meeting, 1997-present.

Motivation Special Interest Group, Review panel, 2009-2015; 2018-present.

Presenter, Geosciences department, Colorado State University, 2015

Activities: Presented results from our research on the recruitment and retention of women in the geosciences.

University Service

Graduate Committee Chair, School of Psychological Sciences, 2017-present.

Graduate Coordinator, Ph.D. Educational Psychology, School of Psychological Sciences, 2017-present.

Graduate Coordinator, online MA Educational Psychology: Teaching Applications, School of Psychological Sciences, 2017-2022.

Graduate Coordinator, MA Educational Psychology, School of Psychological Sciences, 2017-2018.

Teaching Circles Coordinator, School of Psychological Sciences, 2017

Search Committee Chair, School of Psychological Sciences, 2016-2017.

Honors Program Coordinator, University of Northern Colorado, School of Psychological Sciences, 2007-2017.

Activities: Supervising psychology honors students; coordinating the honors program for the school.

Graduate Committee, University of Northern Colorado, School of Psychological Sciences, 2006-2017. Activities: Overseeing graduate programs, admissions, and recruiting.

Workshop Provider, First Year Experience Workshop for Non-Traditional Students, University of Northern Colorado, 2014.

Activities: Helped conduct a 4-hour workshop for transfer and non-traditional students.

Workshop Provider, Earth and Atmospheric Science Department, University of Northern Colorado, 2014.

Activities: Presented results from our research on the recruitment and retention of women in the geosciences.

College Committee to Restructure the Secondary PTEP, University of Northern Colorado, College of Education and Behavioral Sciences, 2012-2015. Activities: Redesign the secondary teacher education program.

School Evaluation Sub-Committee, University of Northern Colorado, School of Psychological Sciences, 2008-2014.
Activities: faculty performance evaluations.

Workshop Provider, Graduate Student Professional Development program, University of Northern Colorado, 2013.
Activities: Conducted a workshop on “Teaching for Transfer and Transformation.”

Workshop Provider, Office of Undergraduate Research workshops, University of Northern Colorado, 2012.
Activities: Conducted a workshop on qualitative research.

Presenter, University Graduate Teaching Assistant Orientation, University of Northern Colorado, 2012.
Activities: Gave a presentation titled, “Teaching for Transfer and Transformation.”

Presenter, Faculty presentations, University of Northern Colorado, 2012.
Activities: Gave a presentation on using wikis in online courses.

Workshop Provider, How Students Learn, University of Northern Colorado, 2012.
Activities: Conducted a workshop for science faculty.

Website Coordinator, University of Northern Colorado, School of Psychological Sciences, 2007-2009.
Activities: Developing and maintaining the school website in collaboration with university staff.

Search Committee, University of Northern Colorado, School of Psychological Sciences, 2008-2009.

Chair, *Graduate Programs Committee*, The University of Toledo, Foundations of Education, 2002-2006.
Activities: Revised graduate programs including course sequence, course requirements, credits, and assessments.

Student Technology Fee Committee, The University of Toledo, College of Education, 2003-2006.
Activities: Determined use of the student technology fee and related issues.

Search Committees, The University of Toledo, Foundations of Education, 2001-2005.

Dossier Format Committee, The University of Toledo, College of Education, 2003-2004.
Activities: Developed a standardized dossier format.

Chair, *Qualifying Exam Committee*, The University of Toledo, Foundations of Education, 2000-2003.
Activities: Administered and evaluated doctoral qualifying exams.

NCATE Committee, The University of Toledo, College of Education, 2001-2003.
Activities: Developed materials for NCATE review.

Doctoral Monitoring Committee, The University of Toledo, College of Education, 2001-2003.
Activities: Made decisions on doctoral student issues.

Department Brown Bag Committee, The University of Toledo, Foundations of Education, 2001-2002.

Student Service

Dissertations Chaired

Kriescher, D. P. J. (2022). *Exploring formative versus summative assessment models on creative mindset development*. University of Northern Colorado.

Olson, C. R. (2022). *Project-based learning in introductory psychology: Modern adaptations to an academic classic*. University of Northern Colorado.

Younis, M. (2021). *A photo for change: A mixed methods study of using photovoice pedagogy to foster transformative learning among college students*. Unpublished doctoral dissertation, University of Northern Colorado.

Flores, S. D. (2019). *Group differences in motivation and achievement outcomes within a first-year seminar*. Unpublished Doctoral Dissertation, University of Northern Colorado.

Benke, L. F. (2019). *It's all fun and games until someone learns to read, then it's educational: Children's librarians as literacy educators*. Unpublished Doctoral Dissertation, University of Northern Colorado.

Bailey, S. R. (2017). *Transformative experiential impacts on students: An intervention*. Unpublished Doctoral Dissertation, University of Northern Colorado.

Allen, W. B. (2016). *Social capital made visible: a case study of professional learning communities in early care and education*. Unpublished Doctoral Dissertation, University of Northern Colorado.

Felmban, W. S. (2015). *The role of information and reflection in reducing the bias blind spot: A cross-cultural study*. Unpublished Doctoral Dissertation, University of Northern Colorado.

Bergstrom, C. M. (2013). *Why do some succeed? The impact of goal orientation and need for closure on learning and engagement in a problem-based learning environment*. Unpublished Doctoral Dissertation, University of Northern Colorado.

Shepard, Mary Ann H. (2004). *Participant perceptions of internalized and environmental factors influencing educational resilience among economically marginalized students*. The University of Toledo.

Masters Theses Chaired

Pratt, I. G. (2013). *Videotaped interrogations and confessions: A meta-analysis of the camera perspective bias*. Masters Thesis, University of Northern Colorado.

Dean, Samuel B. (2006). *Theoretical Considerations in Designing a Public Space for Family Inquiry*. The University of Toledo.

Kelly, Kristin L. (2006). *What About Games?: Achievement Goals, Intrinsic Motivation, and Educational Games*. The University of Toledo.

Honors Thesis Advised

Hayes, A. (2015). *Therapy Dogs and the Elderly*. Honors Thesis, University of Northern Colorado.

Wagner, B. (2013). *A Case Study: Barriers to Receiving Mental Health Services for Residents of Rural Communities*. Honors Thesis, University of Northern Colorado.

Quezada, N. (2012). *Es el Colegio Para Mi? Why Students of Mexican Descent Choose or Do Not Choose to Attend College*. Honors Thesis, University of Northern Colorado.

Alicia Smith (2010). *Are blondes less intelligent? Stereotype threat and hair color*. Honors Thesis, University of Northern Colorado.

Sara Baum (2010). *Integrating identities for a state of mental well-being: Analyzing immigration-related depression*. Honors Thesis, University of Northern Colorado.

McNair Projects Advised

Frazier, C. (2012). *College Academic Success: Prior Motivations and Perceptions of Parents*. McNair Scholars Project, University of Northern Colorado.

Research Groups Organized

2017-present, Transformative Experience Lab, University of Northern Colorado.

2008-2014, Motivation Research Group, University of Northern Colorado.

2004-2005, Science, Math & Technology Research Group, The University of Toledo.

2002-2005, Motivation Research Group, The University of Toledo.

Public Service

Professional Development for the Air War College, Montgomery, AL (the Air War College is the senior professional military education school of the U.S. Air Force), 2016.

Activities: Provided instructional training for officers and instructors.

Consultant, Virginia museum educators, 2014.

Activities: Consulted with Joanna Garner (Old Dominion University) on training for museum educators.

Board member, Northern Colorado Children's Museum, 2008-2011.

Professional Development for middle school science teachers, Conrad Ball Middle School, Loveland CO, 2007-2011.

Professional development for high school teachers, Durango High School, Durango CO, 2011.

Presenter, Center for Integrated Arts Institute, Greeley CO, 2010 & 2011.

Youth leader, Boy Scouts of America organization, 2001-2011.

Honors and Awards

Taylor & Francis article award for article published in *Theory into Practice*, 2012.

Support for Scholarship, School of Psychological Sciences, University of Northern Colorado, 2009

Support for Scholarship, School of Psychological Sciences, University of Northern Colorado, 2008.

Dean's Research Award, University of Toledo, 2001.