

## **SCOTT P. SOWELL, Ph.D.**

Darnell-Cookman Middle/High School  
1701 North Davis Street, Jacksonville, FL 32209  
sowells@duvalschools.org • www.sowellscience.com

### **Education**

2004 Ph.D., Science Education, Florida State University  
2002 M.S., Science Education, Florida State University  
1995 B.S., Biology, University of North Florida  
1995 B.A., Spanish, University of North Florida

### **Licensure**

Professional Certificate, Florida – Biology (6-12) & General Science (5-9)

### **Professional Employment**

2018-Present Consultant for AP Environmental Science  
College Board

2008-Present Teacher, Science Department Chair, Professional Development Facilitator  
Darnell-Cookman Middle/High School of the Medical Arts (Jacksonville, FL)

2016-2017 Summer Teacher Fellow  
Jacksonville Public Education Fund (Jacksonville, FL)

2015-2017 Adjunct Professor  
The Art Institute of Jacksonville (Jacksonville, FL)  
Courses Taught:  
SCIA 125 - Environmental Science

2005-2008 Assistant Professor  
Cleveland State University (Cleveland, OH)  
Department of Teacher Education, College of Education and Human Services  
Courses Taught:  
ECE 417/517 - Science Instruction in Preschool and the Primary Grades  
EDM 317 - Teaching and Assessing Science in the Middle School  
EDS 317/517 - Secondary Science Instruction and Assessment  
EST 492 – Student Teaching in Secondary Education, Science  
EST 596- Independent Study in Education

2004-2005 Postdoctoral Researcher  
Florida State University  
Department of Middle and Secondary Education, College of Education  
Project Title:  
*Working to measure the impact of professional development activities:  
Developing an instrument quantifying science teachers' pedagogical  
discontentment*

## Scott P. Sowell, Ph.D.

- 2000-2004 Graduate Teaching/Research Assistant  
Florida State University  
Department of Middle and Secondary Education, College of Education  
Project Titles:  
*Scientific Thinking and Internet Learning Technologies (STILT)*  
*Really Exploring and Learning Meteorology (REALM)*  
Courses Taught:  
EDM 3001 – Introduction to Middle Schools  
SCE 5625 - Conceptual Learning in Middle School Science  
MET 1010L – Introductory Meteorology Lab  
SCE 4948 – Student Teaching (Science Education)
- 1999-2000 Teacher  
Douglas Anderson School of the Arts (Jacksonville, FL)  
Courses Taught:  
Biology  
Spanish I
- 1997-1999 Teacher  
Damascus Community School (Damascus, Syria)  
Courses Taught:  
7<sup>th</sup> Grade Science  
8<sup>th</sup> Grade Science  
7<sup>th</sup> Grade Mathematics
- 1995-1997 Teacher  
Kirby-Smith Middle School (Jacksonville, FL)  
Courses Taught:  
7<sup>th</sup> Grade Science  
7<sup>th</sup> Grade Mathematics

### Professional Affiliations

- National Science Teacher Association (NSTA)
- National Association of Biology Teachers (NABT)

### Service/Recognitions

- Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST), 2019
- Duval Soil and Water Conservation District, Conservation Teacher of the Year, 2018
- St. Johns Riverkeeper's Educator of the Year, 2017
- Leadership in Education, Leadership Florida, Inaugural Class, 2016
- HHMI Biointeractive Ambassador Community, Ambassador, 2015-Present
- Teacher Roundtable Steering Committee, Jacksonville Public Education Fund, 2015-2018
- Mentor Teacher, University of North Florida's Educator Preparation Institute, 2014-2018
- Duval County Teacher of the Year, 2012
- Ex-officio board member, Jacksonville Public Education Fund, 2012-2013

## Scott P. Sowell, Ph.D.

- Steering committee member, WJCT TEACH Conference, 2012-Present
- Science Department Chair, Darnell-Cookman MS/HS, 2011-Present
- Professional Development Facilitator, Darnell-Cookman MS/HS, 2010 – Present
- Mentor Teacher, Mentoring and Induction for Novice Teachers, Darnell-Cookman MS/HS, 2010-Present
- Member, School Leadership Team, Darnell-Cookman MS/HS, 2011-Present
- Sponsor, Envirothon Club, Darnell-Cookman MS/HS, 2013-Present
- Sponsor, Gay-Straight Alliance (GSA) Club, Darnell-Cookman MS/HS, 2012-Present

### Funded Projects/Grants/Research

Sowell, S. (2019). *Hogans Creek Watershed Project*. Blue School Grant, St. Johns River Water Management District. (\$1990.80).

Sowell, S. (2016). *DC-SOMA Gay/Straight Alliance's Pride Project*. JASMYN (Jacksonville Area Sexual Minority Youth Network). (\$250.00).

Sowell, S. (2015). *DC-SOMA Recycles*. Earth Day Mini-Grant, Earth Day Jacksonville, Inc. (\$483.22).

Sowell, S. (2013). *Vermicomposting project*. PowerUp Jax, Jacksonville Public Education Fund. (\$650).

Sowell, S. (2011). *Living wall project*. Earth Day Mini-Grant, Earth Day Jacksonville, Inc. (\$475.98).

Sowell, S. & Price, A. (2008). *Incorporating 'video critique' assignments into teacher education coursework*. Center for Teaching Excellence, Cleveland State University. (\$2,723).

Sowell, S., & Ball, D. (2007-2008). *Making the nature of science and scientific inquiry explicit components of the K-3 classroom*. Improving Teacher Quality State Grants Program, Ohio Board of Regents. (\$68,608)

Southerland, S.A., Granger, E., & Sowell, S. (August, 2004 – July, 2005). *Working to measure the impact of professional development activities: Developing an instrument quantifying science teachers' pedagogical (dis)contentment*. Multi-University Reading, Mathematics and Science Initiative, Learning Systems Institute, Florida State University. (\$47,435)

### Refereed Presentations

Bulleri, R., & Sowell, S. (2020). *Exploring Visual and Quantitative Models of Population Ecology*. Presented at the National Association of Biology Teachers, Annual Conference, Virtual.

Sowell, S. (2019). *Investigating Productivity, Biomass, and Food Webs via Online Resources*. Presented at the College Board's Advanced Placement Annual Conference, Orlando, FL.

## **Scott P. Sowell, Ph.D.**

Sowell, S. & Guilfoyle, T. (2018). *Using Data to Explore Ecological Pyramids and Energy Flow with HHMI BioInteractive Resources*. Presented at the National Association of Biology Teachers, Annual Conference, San Diego, CA.

Sowell, S. (2018). *Online Resources for Teaching Biomes and Ecosystem Structures*. Presented at the College Board's Advanced Placement Annual Conference, Houston, TX.

Sowell, S., & Fassler, A. (2018). *How Do Species Coexist? Niche Partitioning with HHMI BioInteractive*. Presented at the National Science Teachers Association Annual Conference, Atlanta, GA.

Sowell, S. & Ward, K. (2017). *Using DNA Metabarcoding to Understand Niche Partitioning in the African Savanna*. Presented at the National Association of Biology Teachers, Annual Conference, St. Louis, MO.

Sowell, S., & Fassler, A. (2017). *Resources for Inquiry and Argumentation in AP Environmental Science*. Presented at the College Board's Advanced Placement Annual Conference, Washington, D.C.

Sowell, S. (2017). *Plunging into Data about Climate Change and Coral Bleaching*. Presented at the National Science Teachers Association STEM Conference, Orlando, FL.

Sowell, S., Shackelford, A., & Csar, T. (2017). *Teacher Roundtables: Engaging Teacher Leaders in Policy Reform Conversations*. Presented at the International Teacher Leadership Conference, Miami, FL.

Sowell, S. (2016). *Climate Change and Coral Bleaching: A Student Inquiry Experience*. Presented at the annual meeting of the Florida Association of Science Teachers, Orlando, FL.

Sowell, S., & Klein, C. (2016). *Engaging Students with Authentic Science Literature*. Presented at the annual meeting of the National Association of Biology Teachers, Denver, CO.

Sowell, S., & Klein, C. (2016). *Coral Bleaching and the Nature of Science in the Classroom*. Presented at the annual meeting of the National Marine Educators Association, Orlando, FL.

Sowell, S. & Csar, T. (2015). *Teacher Roundtables: Empowering Teacher Leaders to Enact Change*. Presented at the annual TEACH Conference, Jacksonville, FL.

Sowell, S. (2014). *Refusing to Unlearn: One Science Teacher's Response to the Accountability Movement*. Presented at the annual TEACH Conference, Jacksonville, FL.

Sowell, S. (2013). *Scientific inquiry and the common core ELA standards*. Presented at the annual TEACH Conference, Jacksonville, FL.

## Scott P. Sowell, Ph.D.

- Sowell, S. (2012). *Empowering young scientists: Students learning science by really doing science*. Presented at the annual TEACH Conference, Jacksonville, FL.
- Vonderwell, S., Wachira, P., Ferguson, R., Sowell, S., Kim, H.K., Jackson, D., & Price, A. (2008). *A professional learning community for developing inquiry-based lessons using handheld computers*. Paper presented at the annual meeting of the Society for Information Technology and Teacher Education, Las Vegas, NV.
- Southerland, S.A., Sowell, S., Granger, D.E., Kahveci, M., & Saka, Y. (2007). *Working to measure the impact of professional development activities: Offering an instrument to quantify science teachers' pedagogical discontentment*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, New Orleans, LA.
- Jackson, D., Sowell, S., & Gielow, J. (2007). *Science teachers' perceptions of personal change: Describing influences of an MSP (Mathematics and Science Partnership) program*. Paper presented at the annual meeting of the Association for Science Teacher Education, Clearwater Beach, FL.
- Sowell, S., Southerland, S.A., & Blanchard, M. (2006). *Who are the "They" in "They say..."? Finding fruitfulness of nature of science within an urban context*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, San Francisco, CA.
- Sowell, S., Southerland, S., & Granger, E. (2006). *Exploring the construct of teacher pedagogical discontentment: A tool to understand teachers' openness to reform*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Southerland, S.A., Sowell, S., Granger, D. E., Gaede, O., & Kahveci, M. (2006). *Working to measure the impact of professional development activities: developing an instrument to quantify pedagogical discontentment*. Paper presented at the annual meeting of the National Association for Research in Science, San Francisco, CA.
- Sowell, S., Ferguson, R., & Jackson, D. (2006). *Developing preservice teachers' nature of science knowledge via hand-held technology*. Poster presented at the Catalyst Ohio Technology Conference, Columbus, OH.
- Sowell, S. (2006). Presentation in symposium: *Integrating inquiry into the classroom: Challenges and possibilities*. Presented at the annual meeting of the National Association for Research in Science, San Francisco, CA.
- Sowell, S. (2005). *Equity and identity: Teaching as a political act*. Paper presented at the Crossroads of Science Education Conference, Hartford, CT.
- Sowell, S. (2005). *Integrating middle school discourse into a poststructural analysis of gender and science teaching*. Paper presented at the annual meeting of American Educational Research Association, Montreal, Canada.

## Scott P. Sowell, Ph.D.

- Southerland, S.A., Johnston, A., & Sowell, S. (2005). *Reinvoking conceptual ecologies: Inservice teachers' conceptual change in nature of science*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Dallas, TX.
- Southerland, S.A., Sowell, S., Johnston, A., & Settlage, J. (2005). *Perhaps triangulation isn't enough: A call for crystallization as a methodological referent in NOS research*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.
- Sowell, S. (2005). *Negotiating gendered science identities: A feminist poststructuralist expedition through middle school science teaching*. Paper presented as part of the paper set, *Poststructuralist possibilities: Using feminist poststructuralist theories for making sense in science education research*, (with W. Letts, C. Brandt, & F. Moore) at the annual meeting of National Association for Research in Science Teaching, Dallas, TX.
- Sowell, S. (2004). *Negotiating a science teacher identity: A feminist poststructural analysis of agency within discursive authorship*. Paper presented at the annual meeting of the Southeastern Association of Educators of Teachers in Science, Gainesville, FL.
- Sowell, S. (2002). *Using a gender and development (GAD) lens to explore preservice science teachers' reflections on gender equity*. Paper presented at the annual meeting of the Southeastern Association of Educators of Teachers in Science, Kennesaw, GA.
- Lawrence, C., Yager, R., Sowell, S., Hancock, E., Yalaki, Y., & Joblon, P. (2001). *The philosophy, theory and practice of science-technology-society orientations*. Paper presented at the annual meeting of the Association for the Education of Teachers of Science, Costa Mesa, CA.
- Hancock, E., Moore, F., & Sowell, S. (2000). *Teacher learning via portfolio development*. Paper presented at the annual meeting of the Southeastern Association for the Education of Teachers of Science, Tampa, FL.
- Butler, J. A., & Sowell, S. (1995). *Survivorship and predation of hatchling and yearling gopher tortoises*. Paper presented at the annual meeting of the Society for the Study of Amphibians and Reptiles, Boone, NC.
- Lenart, L.A. & Sowell, S. P. (1994). *Anoline diversity in three different differentially altered habitats in the Sierra de Baoruco, República Dominicana, Hispaniola*. Paper presented at the joint annual meeting of the Herpetologists' League and The Society for the Study of Amphibians and Reptiles, Athens, GA.
- Butler, J. A., Hull, T.W., Sowell, S., & Bowman, R. (1994). *Movements and home ranges of gopher tortoises during their first two years*. Paper presented at the Symposium on the Status and Conservation of Florida Turtles, St. Petersburg, FL.
- Sowell, S.P., Powell, R., Parmerlee, J.S., Lathrop, A., & Smith, D. D. (1993). *Niche partitioning by a lizard community in the Sierra de Baoruco, Hispaniola*. Paper presented at the annual meeting of the Missouri Herpetological Association, Steelville, MO.

## Scott P. Sowell, Ph.D.

### Publications

- Nanney, M., & Sowell, S. (2021). Microbiology for Pre-College Teachers. In E. Goldman & L. Green (Eds.), *Practical Handbook of Microbiology* (4<sup>th</sup> ed.). CRC Press.
- Southerland, S.A., Sowell, S., & Enderle, P. (2011). Science teachers' pedagogical discontentment: Its sources and potential for change. *Journal of Science Teacher Education*, 22(5), 437-457.
- Southerland, S.A., Sowell, S., Blanchard, M., & Granger, E.M. (2010). Exploring the construct of pedagogical discontentment: A tool to understand science teachers' openness to reform. *Research in Science Education*, 41(3), 299-317.
- Southerland, S.A., Smith, L. K., Sowell, S., & Kittleson, J. (2007). Resisting unlearning: Understanding science education's response to the United State's national accountability movement. *Review of Research in Education*, 31, 45-77.
- Sowell, S. (2007). Possibilities of degrees of tentativeness of science in the classroom. In J. Settlage & S. A. Southerland (Eds.), *Teaching science to every child: Using culture as a starting point*. New York: Routledge.
- Sowell, S., Johnston, A., & Southerland, S. (2007). Calling for a focus on where learning happens: A response to Abd-El-Khalick and Akerson. *Science Education*, 91(1), 195-199.
- Southerland, S.A., Johnston, A., & Sowell, S. (2006). Describing teachers' conceptual ecologies for the nature of science. *Science Education*, 90(5), 874-896.
- Johnston, A., Southerland, S., & Sowell, S. (2006). Dissatisfied with the fruitfulness of "learning ecologies." *Science Education*, 90(5), 907-911.
- Butler, J. A., & Sowell, S. P. (1996). Survivorship and predation of hatchling and yearling gopher tortoises, *Gopherus polyphemus*. *Journal of Herpetology*, 30, 455-458.
- Sowell, S.P., Parmerlee J.S., & Powell, R. (1995). *Anolis bahorucoensis*. *Catalogue of American Amphibians and Reptiles*, 608, 1-3.
- Butler, J., Bowman, R.D., Hull, T. W., & Sowell, S. P. (1995). Movements and home range of hatchling and yearling gopher tortoises, *Gopherus polyphemus*. *Chelonian Conservation Biology*, 1, 173-180.
- Bowersox, S.R., Calderón, S., Cisper, G., Garcia, R.S., Huntington, C., Lathrop, A., Lenart, L., Parmerlee, J.S., Powell, R., Queral, A., Smith, D. D., Sowell, S. P., & Zippel, K.C. (1994). Miscellaneous natural history notes on amphibians and reptiles from the Dominican Republic. *Bulletin of the Chicago Herpetological Society*, 29, 54-44.

### Invited Presentations & Professional Development Sessions

- Sowell, S. (2020). *Modeling Earth Systems and Climate Change with HHMI Biointeractive Resources*. Invited professional development for Clay County Public Schools, Florida.

## Scott P. Sowell, Ph.D.

Sowell, S. (2019). *Analyzing Graphical Representations of Data*. Invited professional development for Mass Insight Education's 2-Day Workshop for AP® Teachers, Boston, MA.

Sowell, S. (2018). *Evidence and Explanation: Implementing Science Practices Using HHMI BioInteractive Resources*. Invited professional development for University of Central Arkansas.

Sowell, S. (2018). *Constructing Explanations with HHMI Biointeractive*. Invited professional development for Miami-Dade Public School, Florida.

Sowell, S. (2014). *Reflections on Pedagogy and Learning*. Invited presentation for City Year, Jacksonville, Florida.

Sowell, S. (2012). *Reflections on Organizing Gay–Straight Alliances*. Invited presentation for Teaching Respect For All: Creating Safe Schools for LGBT Students, Jacksonville, Florida.

Sowell, S. (2007). *Doing science at the public library*. Invited professional development presentations for librarian in-services at Cuyahoga County Public Library, Cleveland, OH.

Sowell, S. (2006). *The role of “conceptual ecologies” in students’ science learning: Implications of the “warming trend” in conceptual change research*. Invited presentation at Integrating Science and Mathematics Education Research into Teaching, National Summer Conference, University of Maine.

Sowell, S. (2006). *Using the Conceptual Change Model (CCM) of learning in the science classroom: Implications for engendering robust nature of science (NOS) understandings*. Invited workshop at the Integrating Science and Mathematics Education Research into Teaching, National Summer Conference, University of Maine.

Sowell, S. (2006). *Evolution and intelligent design in the (science) classroom*. Invited presentation for Teacher Education Department faculty, Cleveland State University.

Sowell, S. (2004). *Toward defining the construct of pedagogical (dis)contentment*. Invited presentation at graduate science education departmental colloquium; Florida State University.

### Additional Original Creative Work Not Reported Elsewhere

- Co-Writer & Science Consultant. (2020). *Hot Mess: Essentials of Environmental Science*. Digital Series from PBS Digital Studios.