

Dr. Jacqueline T. McDonnough

Full Biography



Dr. Jacqueline T. McDonnough has over 30 years of academic and leadership experience in the education and scientific research spaces. Her career has spanned a variety of roles and focus areas, all of which align with her passion for science, empowering science teachers, and improving the classroom experience for students.

Dr. McDonnough earned her Bachelor of Science degree in Secondary Education from Virginia Commonwealth University (VCU). She went on to earn a Master's degree in Education from VCU, with an externship focused on elementary teachers' attempts to use constructivist approaches in third-grade mathematics. Three years later, she earned her Ph.D. in Science Education from the University of Virginia. Her dissertation focused on the implications of the reported use of constructivism with diverse populations.

Dr. McDonnough's teaching began with high school science at Thomas Dale High School in Chesterfield, Virginia. With classes including ninth-grade earth science, ninth-grade space science, and eleventh- and twelfth-grade applied physical science, she guided students from a variety of backgrounds to achieve success in the classroom.

Following that experience, she moved on to teach eighth-grade physical science and earth/space sciences at Chandler Middle School and O.W. Minnis Middle School in Richmond, Virginia. At O.W. Minnis, she served for two years as the eighth-grade team leader and the Head of the Science Department, which began her foray into curriculum development.

In 2002, she pivoted from primary and secondary education to the university level, serving as Collateral Faculty in the School of Education at Virginia Commonwealth University (VCU). She taught courses including

Elementary Science Methods (TEDU 517), Teaching Secondary Science (TEDU 540), and Secondary Practicum (TEDU 301).

The following year, Dr. McDonnough was promoted to Assistant Professor and continued to teach the three courses listed above, plus Investigations and Trends in Teaching Science (TEDU 681) and Curriculum and Instruction Externship (TEDU 700). She also served as chair for dissertation committees and acted as an advisor for secondary science majors.

During summer terms from 2002 to 2005, Dr. McDonnough served as Director of the Virginia Governor's School for Life Sciences and Medicine, a summer residential program for gifted students. She managed staffing for seven positions, as well as budgeting, program promotion, and program planning for the summer schedule.

In 2009, Dr. McDonnough was once again promoted to Associate Professor in the School of Education at VCU. In addition to continuing to teach three of her previous courses, she was the Principal Investigator for the Robert Noyce scholarship program and the VCU Virginia Initiative for Science Teaching and Achievement grant.

Alongside her professor role at VCU, Dr. McDonnough served as Director of the VCU Center for Life Science Education. In this role, she administered programs that promoted science literacy at the local, regional, and national levels. Her aim was to increase public awareness of technical and bioethical issues, educate pre-college students about the life sciences, and inform/train K-12 science teachers.

Prior to the ProFarms Gateway project, her most recent research focused on how secondary science pre-service teachers develop cultural competency in high-need settings. Past research has included a total of 19 published papers and three published books/book chapters.

Her early research explored a variety of ways to enhance the classroom experience for science teachers, including reports exploring the impact of technology in the classroom and the importance of hands-on science curricula.

Later research explored the importance of tailoring the classroom experience to accommodate English Language Learners. She also created a framework to analyze teachers' readiness for various teaching placements, including high school classrooms and high-diversity environments. Her most recent publication, currently in press, is entitled, "PLC-based induction: Creating support for new teachers of science." It will be published in *Newly Hired Teachers of Science: A Better Beginning*.

She has also been published in *The Journal of Mathematics and Science*, *Science and Children*, *Science Scope*, *Journal of Virginia Science Education*, *Journal of Science Teacher Education*, *The Science Teacher*, *School Science and Mathematics*, and *Teacher Education and Practice*.

To fund her research, Dr. McDonnough has received seven grants ranging in amount from \$5,000 to \$5,100,000. These grants have included the National Science Foundation Robert Noyce Scholarship Grant, the

US Department of Education Virginia Initiative for Science Teaching and Achievement, the VCU School of Education Internal Research Grant, and the GTE Growth Initiative for Teachers.

The GTE grant in particular was awarded to construct a wetland study site in a school courtyard and to develop an integrated mathematics and science curriculum. Dr. McDonnough's total grant funding totals \$6,832,000 across the seven awards.

Throughout her career, she has served on over 35 committees at the university, state, regional, national, and international levels. Those committees have covered focuses including sustainability, program development, technology implementation, curriculum review, grant selection, and research review.

Notable examples include the VCU University Faculty Senate, the Minority Faculty Advisory Council, the Secondary Program Group (where she served as Chairperson), the Curriculum and Instruction Program Group (where she also served as Chairperson), and the Virginia Teacher Quality Task Force.

She has been awarded the REB Excellence in Teaching Award, which recognizes public school teachers who distinguish themselves by their inspiring classroom performance. The program's primary belief is that a positive education experience at the elementary, middle, or high school level has the power to permanently transform a student's habits towards learning and discipline.

She also received the WPIX TV Golden Apple Award, the City of Richmond School Board Certification of Appreciation, James River Soil Conservation District's Soil Conservation Educator of the Year, and the Dr. Howard W. Allen Award. Each of these awards signifies excellence in professional achievements, academic achievements, and/or leadership and mentorship support.

To give back to local communities, Dr. McDonnough has volunteered with a variety of organizations. Since 2018, she's been a member of the Art 180 Development Committee. Since 2017, she's volunteered with 6 Points of Innovation and the Highland Park Quality of Life Team. She also served on the Board of Directors for the Virginia Jamaica Education Exchange Foundation from 2004 to 2007.