South Carolina
Commission on Higher Education

CAAL
11/10/16
Agenda Item 6

November 10, 2016

MEMORANDUM

To: Chair Terrye Seckinger, and Members, Committee on Academic Affairs and Licensing

From: John Lane, DMA, Director of Academic Affairs

Consideration of New Federal *Improving Teacher Quality* Competitive Grants Awards, FY 2016-17

Background

Since 1984, the Commission on Higher Education has been responsible for administering federal funds under a Title II program of *The Elementary and Secondary Education Act* (ESEA). In 2001, the federal legislation was re-authorized under the *No Child Left Behind Act* (NCLB [PL 107-110]. Title II, Part A of NCLB, entitled *Preparing, Training, and Recruiting High-Quality Teachers and Principals,* authorizes the Commission to conduct a competitive awards program to provide support to increase student academic achievement through strategies including: 1) improving teacher and principal quality; and 2) increasing the number of highly qualified teachers in the classroom and highly qualified principals and assistant principals in schools.

The Commission is authorized to provide a competitive grants program to federally mandated partnerships comprised, at a minimum, of postsecondary schools of education and divisions of arts and sciences along with one or more high-need local education agencies (LEA). Funds to the state are allocated based on the FY 2001 amount received under the former Eisenhower Professional Development and Class-Size Reduction programs. Any remaining funds from the federal appropriation are distributed through a formula based on the State's school-age population and percent of these children in families with incomes below the poverty level.

The Improving Teacher Quality (ITQ) Program provides the Commission with the ability to expand its professional development offerings to the P-12 community to nine content areas and other school personnel. The program seeks to bring together higher education faculty and P-12 school personnel to foster mutually beneficial partnerships based on sustained professional development. The purpose of the ITQ project is to improve teacher content knowledge in the subject areas they teach. The ultimate goal of the partnership is improved student performance.

Under federal regulations, 2.5 percent of the *Improving Teacher Quality Higher Education Grants* (ITQ) funds for the state is allocated to the Commission to be used for the competitive grants program. The Commission received $689,030 with which to make Federal FY 2016-17 awards. Project applicants could request up to $125,000 to conduct professional development projects in one of nine content areas as identified by the United States Department of Education for FY 2016-17. Staff sought proposals that would have maximum impact on improving teacher content knowledge and improving student achievement. The number of grants awarded was determined primarily by the quality of the proposals submitted. No proposal was considered unless it met the minimum federal definition of a partnership (as stated in the *ITQ Guidelines* and in the *Federal Title II Non-Regulatory Guidance*).

Review Panel Recommendations

A review panel met on October 28, 2016, to evaluate and rate the six (6) proposals submitted for consideration for funding. Review panel membership consisted of higher education representatives, the STEM coordinator for a K-12 school district, and CHE staff (**Attachment 1**). The FY 2016-17 review panel determined that four of the projects were fundable (**Attachment 2**) because of their success in meeting the stated goals and objectives in their original proposals, for appropriate activities as identified by the federal guidelines, and for geographic representation. The total funding amount for the recommended awards for FY 2016-17 is $689,030, contingent upon availability of funds from the federal government. In order to provide more teacher participants the opportunity to participate in the professional development activities, the review panel recommended the total award be distributed evenly among the four proposals recommended for funding, resulting in all proposals receiving additional funds compared to the original budget request. The four proposals recommended for funding will allow teachers in at least eight school districts to receive professional development in mathematics or science content. The abstract for each of the four projects recommended for funding is included in **Attachment 3**. A map (**Attachment 4**) is attached which shows the high-needs LEAs that are eligible to participate in the Improving Teacher Quality Grant programs based on federal guidelines. The school districts shaded in blue are currently receiving funding from the 2015-16 review and the districts shaded in green are part of the proposals recommended for funding for 2016-17. Proposals were selected based on a review of the written proposal and a 40-minute oral presentation. Review panel members submitted their scores from the written review and the oral presentation. These scores were combined for a total score and the mean was calculated to rank the proposals from highest to lowest.

Recommendation

In keeping with and following the Committee's authority to make the new awards on behalf of the Commission for the *Improving Teacher Quality* grant program, the staff recommends that the Committee on Academic Affairs and Licensing approve on behalf of the Commission the review panel's funding recommendations as shown in **Attachment 2**. Funding is contingent upon the project directors' revisions of the proposed projects in accord with the review panel's recommended changes.

Attachment 1

ITQ Review Panel 2016-17
October 28, 2016
9:00 am – 5:00 pm

Dr. Albert Dukes *Chemistry* Assistant Professor of Chemistry Department of Physical Sciences Lander University 320 Stanley Avenue Greenwood, SC 29649-2099 864-388-8373 adukes@lander.edu ***Public Higher Education***	**Dr. Pam Wash** *Science Education* Associate Professor and Chair Counseling, Leadership, and Educational Studies R.W. Riley College of Education Winthrop University 803-323-4858 washp@winthrop.edu ***Public Higher Education***
Dr. Nicole Strange-Martin *Literacy* Dean, School of Education Claflin University 400 Magnolia Street Orangeburg, SC 29115 803-535-5225 Nstrange-martin@claflin.edu ***Independent Higher Education***	**Dr. Joanna Stegall** *Mathematics Education* Associate Dean, College of Education Anderson University 316 Boulevard Anderson, SC 29621 864-231-2046 jstegall@andersonuniversity.edu ***Independent Higher Education***
Ms. Trena Houp *English* Academic Affairs SC Commission on Higher Education 1122 Lady Street, Suite 300 Columbia, SC 29201 803-737-4853 thoup@che.sc.gov ***CHE***	**Ms. Lori Ann Smith** *STEM Coordinator* Sumter District 1345 Wilson Hall Rd Sumter, SC 29151 803-469-6900 ext. 520 Lori.Smith@sumterschools.net ***Science – K-12***

Staff Support – Dr. Paula Gregg
Program Manager, Academic Affairs

Attachment 2

Improving Teacher Quality Higher Education Proposals Submitted
FY 2016-17

Institution	Project Director(s)	Name of Proposal	Content Area	LEA Partners	Funds Requested	Funds Awarded	Recommended for Funding
The Citadel	Jennifer Albert, Richard Robinson	Promoting Problem Solving & Sense Making: Engaging Teachers in the Mathematical Process	Mathematics	Charleston County	$123,623.80	$172,257.50	Yes
Clemson University	Nicole Bannister, Calvin Williams	Exploring the Mathematics of Genetics	Science, Mathematics	Abbeville, Greenwood 51, Anderson 3	$125,464.10	$172,257.50	Yes
College of Charleston	Ian O'Byrne	Project ELATED (English Language Arts and Technology in Education)	English, Language Arts	Charleston County	$125,000.00	0	No
University of South Carolina Aiken	Gary Senn, Gloria Allen	Forward Thinking, Teaching and Learning (FTTL): Mathematics and Science Concepts in a Digital-based Society	Science, Mathematics	Aiken, Allendale, Bamberg 2	$124,992.33	$172,257.50	Yes
University of South Carolina Columbia	Stephen Thompson	Enhancing Middle Grades Science Teachers' Knowledge of Plant Processes, Structures, and Functions Through Engagement in Plant Sciences Research	Science	Richland 1	$122,130.73	$172,257.50	Yes
University of South Carolina Upstate	Marilyn Izzard, Stephen Bismarck	Making Math Matter	Mathematics	Spartanburg 2, 3, 7	$107.930.60	0	No

Attachment 3

The Citadel: Jennifer Albert & Richard Robinson

Promoting Problem Solving & Sense Making: Engaging Teachers in the Mathematical Process

Abstract

The vision for the *Promoting Problem Solving and Sense Making* project is to help high school mathematics teachers in Charleston County School District (CCSD) enhance their mathematics content knowledge. Through thoughtful interventions, we will encourage teachers to develop knowledge *of* mathematics and knowledge *about* mathematics via disciplinary literacy, specifically mathematical literacy. Teachers will receive two one-week summer professional development (PD) experiences (S17 & S18) and then be supported throughout the academic year by the project team and other project teachers (community of practice, COP).

Two primary goals for mathematics instruction have emerged from our conversations with representatives from public, private, and charter schools in Charleston County: (1) increase rigor in the high school mathematics classroom, and (2) ensure all students are college/career ready by graduation. Learning to read and write different types of mathematical texts, as part of purposeful, mathematical problem-solving and sense-making, supports the development of mathematical literacy (Fang & Schleppegrell, 2010). In connection with the second goal, this project will help teachers support students' abilities to produce, communicate, and evaluate mathematical knowledge, a key skill in the post-secondary mathematics classroom (Shanahan & Shanahan, 2008). Further, our schools are not only racially and linguistically diverse, they also exist across diverse contexts (e.g. rural, urban) and draw upon different cultural and community resources. Using a COP model (Lave & Wenger, 1991), our PD program will allow individual teachers to engage in the collaborative development of understandings, beliefs, and practices related to mathematical literacies and academic language.

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Clemson University: Nicole Bannister & Calvin Williams

Exploring the Mathematics of Genetics

Abstract

Careers at the intersection of genetics and statistics, such as bioinformatics, are in high demand. These jobs require making sense of complex data as well as interpreting and explaining the results to individuals and families. The workforce is insufficient to meet demand, which continues to skyrocket. This need is felt locally by Greenwood Genetics Center (GGC, a *Center of Excellence in Medical Genetics* and nonprofit institute organized to provide clinical services, education, resources and research in medical genetics fields. In response, the *Exploring the Mathematics of Genetics* project aims to increase teachers' content knowledge in ways that translate into better preparing students for job demands that require strong statistical literacies. Participating rural middle grades and secondary mathematics teachers will experience statistics-centered inquiry-based learning modules co-designed by higher education faculty and GGC scientists at our first summer institute, including collecting and analyzing data. With faculty support, teachers will design, implement, and videotape instructional modules during the school year that address SCCCR data analysis standards in authentic genetics contexts. Teachers will analyze the data they collected on student experiences during the second summer institute, link efforts to student achievement, make academic posters, and present findings at a reception for families, faculty, administrators, and other stakeholders. By investing in South Carolina teachers—teachers who are talented and worthy of this investment—we aim to contribute a model for growing teacher content knowledge in ways that meaningfully increases student achievement and prepares a homegrown response to urgent job demands in our local communities.

University of South Carolina Aiken: Gary Senn & Gloria Allen

Forward Thinking, Teaching and Learning (FTTL): Mathematics and Science Concepts in a Digital-based Society

Abstract

Through a partnership among USC Aiken, Aiken County Public Schools, Allendale County Schools, Bamberg School District Two, Charter and Public Schools in the CSRA region, and local industries, thirty-three middle and high school teachers in high needs districts will participate in an innovative content-rich mathematics, science and technology-enhanced project. This eighteen-month project will provide high quality professional learning activities designed to improve teacher content knowledge, prepare teachers to teach college- and career-ready mathematics and science standards more effectively with applicable integration of technology, improve student learning, and increase student access to accelerated learning opportunities in high-need areas. Teachers will participate in a graduate course, two intensive mathematics and science week-long summer institutes, webinars, four follow-up sessions, and an industry visit. The instructional team will comprise of USC Aiken College of Science and Engineering faculty, School of Education faculty, Mathematics Specialists with the Ruth Patrick Science Education Center, technology support specialists and visiting professionals from local industries.

The Forward Thinking, Teaching and Learning (FTTL): Mathematics and Science Concepts in a Digital-based Society professional development activities are designed to include the use of digital learning and technology-rich applications of mathematics and science to meet the following goals: 1. Increase middle and high school teachers' content knowledge and conceptual understanding in mathematics and science; 2. Improve instruction in middle and high school mathematics and science classrooms; and 3. To increase middle and high school student achievement in mathematics and science.

A quasi-experimental design evaluation will be used to determine the extent to which there is improvement in teachers' mathematics and science content knowledge, student achievement, and facility with using digital tools to effectively integrate technology.

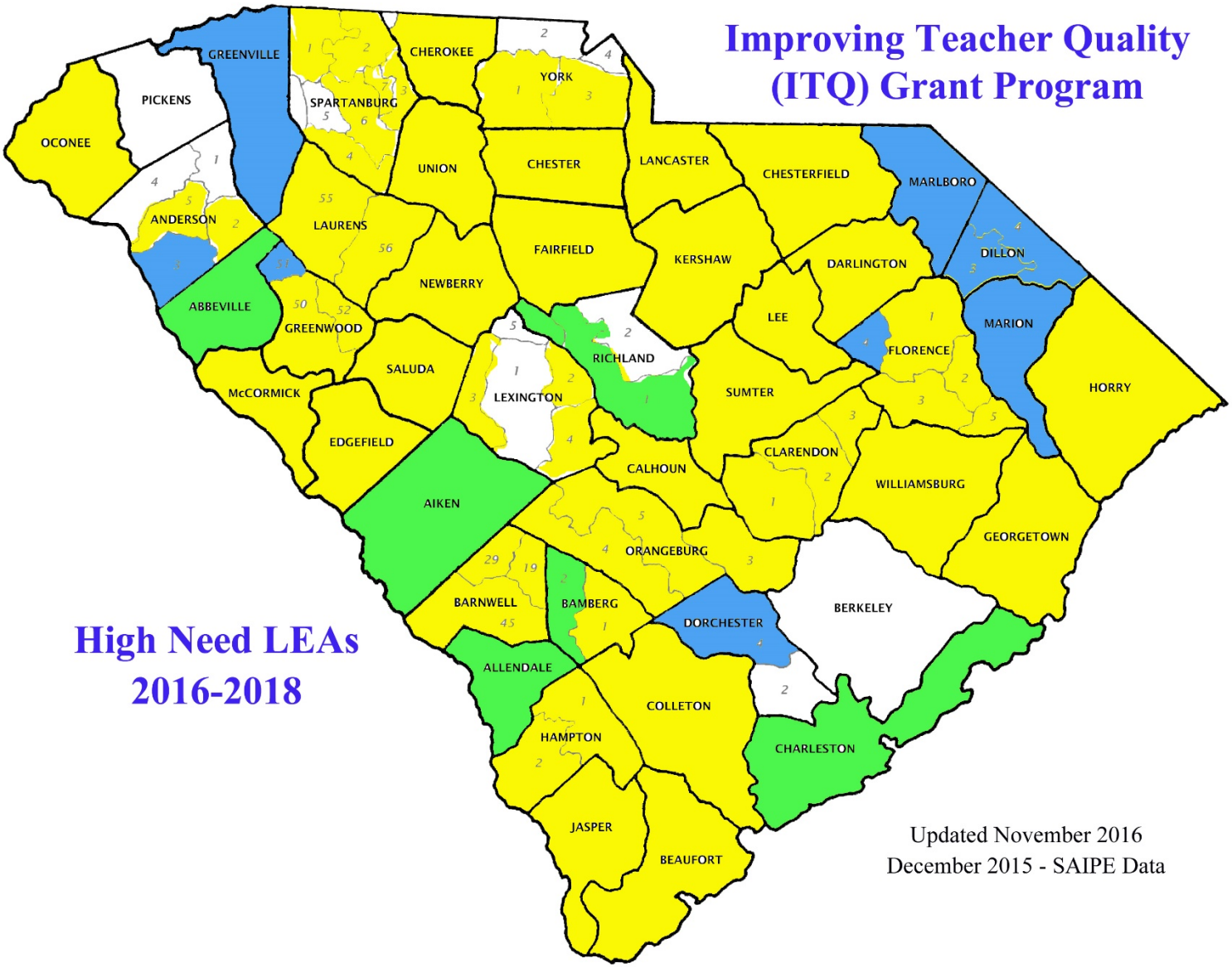
University of South Carolina Columbia: Stephen Thompson

Enhancing Middle Grades Science Teachers' Knowledge of Plant Processes, Structures, and Functions Through Engagement in Plant Sciences Research

Abstract

The Plant Science program is a collaborative between the University of South Carolina and Richland County School District One. In spite of our best teaching efforts, middle level students often struggle to understand basic plant processes such as how plants make food. The importance of such understanding for students and science teachers is emphasized in guiding science education documents. Recent research indicates that engaging learners in curricula that 1) pays greater attention to the interrelated nature of plant processes, and 2) emphasizes integration of biological knowledge and processes, as well as the relationships that exists between them, improves learners' conceptions of plant processes. Such approaches also fit in well with one of the major goals of current science education efforts, to help pupils gain an integrated understanding of complex systems. The PIs on this proposed project have conducted extensive research in the areas of plant-related instruction and plant science research, and their collective research informs and supports the project design presented in this proposal. Project activities are designed to 1) show teachers how to make plant processes, and their related structures, understandable for students and 2) expose teachers to current plant-based research. Twenty-five sixth grade science teachers will take part in summer and academic year activities that (a) immerse teachers in laboratory and lecture experiences to build their understanding of plant processes, pathogens, and diseases; (b) engage teachers in a series of problem-centered plant investigations; and (c) make plant structures, and their related functions, clear for learners.

Attachment 4



	2016-17 New Awards
	2015-16 Currently Funded
	Eligible Districts