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CAAL
01/07/2016
Agenda Item 2

January 7, 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 2015-16

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 is expected to receive \$705,355 with which to make Federal FY 2015-16 awards. Project applicants could request up to \$125,000 to conduct professional development projects in mathematics and science content for FY 2015-16. 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 November 20, 2015, to evaluate and rate the seven proposals submitted for consideration for funding. Review panel membership consisted of higher education representatives, a state department of education associate, the regional coordinator of the S²TEM Centers, a retired director of the LowCountry Mathematics & Science Hub, and CHE staff (**Attachment 1**). The FY 2015-16 review panel determined that five 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 2015-16 is \$705,355 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 five proposals recommended for funding, resulting in only one award receiving a less compared to the budget request. The five proposals recommended for funding will allow teachers in at least seven school districts to receive professional development in mathematics, science, or history content. The abstract for each of the five 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 green are currently receiving funding from the 2014-15 review and the districts shaded in blue are part of the proposals recommended for funding. Proposals were selected based on a review of the written proposal and a 40-minute oral presentation. Each review panel member submitted their scores from the written review and the oral presentation. These scores were combined for a total score and proposals were ranked 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 will be contingent upon the project directors' revisions of the proposed projects in accord with the review panel's recommended changes and availability of federal funds.

ITQ Review Panel 2015-16
November 20, 2015
8:30 am – 6:00 pm

<p>Dr. Linda Payne <i>Physics</i></p> <p>Regional Coordinator S2TEM Centers SC 3250 Saint Matthews Road Orangeburg, SC 29118 803-928-6225 lpayne@scsu.edu</p> <p>K-12 STEM</p>	<p>Ms. Karen Cook <i>Mathematics</i></p> <p>Education Associate Title I, Part A and Title II, Part A Office of Federal and State Accountability South Carolina Department of Education 1429 Senate Street, Suite 512B Columbia, SC 29201 803.734.4040 kcook@ed.sc.gov</p> <p>SDE</p>	<p>Dr. Susan Lee <i>Associate Commissioner of Academic and Student Affairs</i></p> <p>Mississippi Institutions of Higher Learning 3825 Ridgewood Road – Room 924 Jackson, MS 39211 Office: 601.432.6522 Cell: 662.207.1301 slee@mississippi.edu</p> <p>SAHE</p>
<p>Dr. Nieves McNulty <i>Mathematics</i></p> <p>Division of Business, Mathematics, & Science Columbia College 1301 Columbia College Dr. Columbia, S.C. 29203 803-786-3844 nmcnulty@columbiasc.edu</p> <p>Independent Higher Education</p>	<p>Dr. Tim Lintner <i>Social Studies Education</i></p> <p>School of Education USC-Aiken 471 University Parkway Aiken, SC 29801 803-641-3564 W 803-295-8041 C tlintner@usca.edu</p> <p>Public Higher Education</p>	<p>Ms. Vicky Abbott <i>Mathematics</i></p> <p>Director - retired Low Country Mathematics & Science Hub 39 Walnut Hill St Ladys Island, SC 29907-1304 (843) 522 6824 vlabbott@yahoo.com</p> <p>K-12 STEM</p>
<p>Ms. Trena Houp <i>English</i></p> <p>Academic Affairs SC Commission on Higher Education 1122 Lady Street, Suite 300 Columbia, SC 29201 803-737-4853 thoup@che.sc.gov</p> <p>CHE</p>	<p>Dr. Pam Wash <i>Science Education</i></p> <p>Associate Professor and Chair Counseling, Leadership, and Educational Studies R.W. Riley College of Education Winthrop University 803-323-4858 washp@winthrop.edu</p> <p>Public Higher Education</p>	<p><i>Staff Support</i></p> <p>Dr. Paula A. Gregg Academic Affairs SC Commission on Higher Education 1122 Lady Street, Suite 300 Columbia, SC 29201</p> <p>CHE</p>

**Improving Teacher Quality Higher Education Proposals Submitted
FY 2015-16**

Institution	Project Director(s)	Name of Proposal	Content Area	LEA Partners	Funds Requested	Funds Awarded	Recommended for Funding
USC Columbia	Bridget Miller, Arlene Marturano, Kelley Buchheister	Learning Through ACCESS	Science	Dillon 4	\$121,376.59	\$141,071	Yes
College of Charleston	mutinda ndunda ¹ , Quinn Burke	The Intersection of Math and Literacy through Students' Programming Interactive Stories	Mathematics , Literacy	Charleston County	\$125,000.00	0	No
Coastal Carolina	Corey Lee, Joseph Winslow, Alex Fegely	PRISM – Partnership for Robotics Integration using Science and Math	Science, Mathematics	Marion County	\$117,314.00	\$141,071	Yes
Clemson University	Bea Bailey, Alan Grubb	Improving Historical Understanding through Structured Inquiry and Multimedia Exchange	History	Greenville County	\$122,146.00	\$141,071	Yes
Clemson University	Cassie Quigley, Dani Herro	STEAM: Transdisciplinary Teaching and Learning Practices for Middle School Teachers	Science, Mathematics	Spartanburg 6	\$124,681.00	0	No
Clemson University	Nicole Bannister, Calvin Williams	Understanding Geometry by Design	Mathematics	Abbeville County, Greenwood 51, Anderson 3	\$149,861.00	\$141,071	Yes
Charleston Southern	Patty Hambrick, Melinda Walker	Strengthening Science Program (SSP)	Science	Dorchester 4	\$122,000.00	\$141,071	Yes

¹ Lowercase spelling by request.

**Charleston Southern: Patty Hambrick & Melinda Walker
Strengthening Science Program (SSP)**

Abstract

The Strengthening Science Program (SSP) is a collaborative partnership between Charleston Southern University and Dorchester District Four (DD4). DD4 is a rural district that serves a region that has seen a tremendous influx of science and technology related businesses, and they are hiring employees for positions in science, technology, engineering, and mathematics (STEM). While these companies want to hire employees locally, they find that many high school graduates do not possess the skills and abilities needed for success in scientific or technical careers.

The purpose of the Strengthening Science Program (SSP) is to provide sustained professional development in science content knowledge and pedagogy for 25 third through sixth grade teachers in Dorchester District Four. The project is aimed specifically at increasing achievement in science through the integration of standards and best practices. SSP objectives provide for hands-on monthly workshops, two summer institutes, in-person and Course Management System delivery and classroom visitation. This grant project lays the foundation for developing STEM at the elementary and beginning middle school level through science project-based curriculum where knowledge, skills and motivation for success begin.

The Strengthening Science Program Evaluation Plan will focus on four areas: (1) changes in teacher content knowledge in science, (2) changes in teacher pedagogical knowledge, (3) changes in teacher practices, and (4) continuous teacher action research regarding student learning outcomes. The Strengthening Science Program will be evaluated using a combination of qualitative and quantitative measures.

Clemson University: Beatrice Bailey & Alan Grub
Improving Historical Understanding through Structured Inquiry
and Multimedia Exchange

Abstract

Clemson's Moore College of Education and the College of Arts, Architecture and Humanities have worked with the high need LEA school district of Greenville County, South Carolina to develop the **Improving Historical Understanding through Structured Inquiry and Multimedia Exchange** project that will improve the historical content knowledge and instructional practices of South Carolina middle school history teachers. As a result, their middle grades students will improve in terms of their historical understanding.

The professional development (PD) begins with an intensive one-week Academy that enables teachers to participate in structured inquiry and multimedia exchanges related to the study of ancient civilizations. Within this Academy they will 1) forge essential questions, 2) use advance organizers to structure their inquiry, 3) record findings within their interactive history notebooks, and then 4) share their emerging understandings through exchange of multimedia QR codes. The QR exchanges will allow teachers to share their verbal "think-alouds" of their sketches of historical understanding and get feedback on them.

The PD will continue with teachers using their historical understanding and methods with their students in the fall. Follow-up professional development meetings will unfold within 2016-2017 to enable teachers to continue to build their historical understandings and strategies. They will also share student work samples that include the students' multimedia QR codes that record their sketches of understanding and "think-alouds."

The teachers will then participate within a second Academy in June of 2017 in which they will gain additional historical understanding related to another dimension of ancient civilizations studies.

Clemson University: Nicole Bannister & Calvin Williams

Understanding Geometry by Design

Abstract

Teaching mathematics in an era of accountability is a sagacious balancing act of complex expectations from myriad stakeholder groups. Teachers' work has changed to include content acceleration, test score production, rigorous curriculum standards implementation, and flexible enactment of high-leverage pedagogies. And yet, teachers seldom have the time and support necessary for growing these skills. Higher education must team with school districts to avail teachers with opportunities to engage meaningfully in making sense of their redefined work. In response, the *Understanding Geometry by Design* project will increase the geometry content knowledge and pedagogical content knowledge of rural secondary mathematics teachers through targeted programmatic interventions between January 2016 and August 2017.

Through bi-monthly teacher workgroup meetings and two summer institutes, teachers will experience geometry-centered project based learning (PBL) lessons designed by higher education faculty. In tandem with this work, and with classroom support from faculty, teachers will design and implement mini PBL units as part of a yearlong action research project. Teachers will videotape their lessons and collect classroom data on students' experiences. Teachers will analyze these data at our second summer institute and link their efforts to student achievement, make academic posters about their projects, and present their findings at a reception attended by their families, faculty, district representatives, and other interested stakeholders within the community and state.

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 increase student achievement.

Coastal Carolina: Patricia Jones, Corey Lee, & Alex Fegely
PRISM – Partnership for Robotics Integration using Science and Math

Abstract

Technology integration in the secondary classroom mainly focuses on technological knowledge and skills. The typical curriculum ignores the critical connections between technology, pedagogy, and content. Proponents of integrating technology into the curriculum state; the assimilation of technology into math and science help students acquire valuable disciplinary and applied skills. It also helps students prepare for real-world situations, and attracts students who are not otherwise drawn to traditional math and science. Preparing secondary teachers in science and mathematics should align with the vision of what and how students should learn mathematics and science. The teachers trained in robotics will receive current technological/robotics tools and be trained to incorporate this technology into their discipline areas. The project team has developed innovative robotics, inquiry-based lessons, for teachers and students to use in their classrooms.

During the tenure of the project, secondary teacher/participants working in the Marion County School District will be trained in robotic technologies that align to the South Carolina secondary academic standards for mathematics and science. Project partners have designed optimal learning experiences for the teachers which will include building robots, science and math information systems, STEM, and integrating the information into succinct lesson plans.

The goal of the project is to increase the technological comfort level of the participating classroom teachers, and help them to integrate this robotics technology into their science and math content. The areas of need according to the Marion County District Technology Survey are: 1). to enhance professional development as part of an initiative to support the district and state requirements of curricular and instructional processes in the classroom and 2) to seamlessly integrate technology into classroom instruction in an effort to ensure teacher and student understanding and usage.

**University of South Carolina Columbia: Bridget Miller, Arlene Marturano,
& Kelley Buchheister
Learning through ACCESS**

Abstract

Dillon School District Four is a rural community along the I-95 corridor. Due to its location and limited industrial base, classroom teachers in the district may feel the pressure many rural teachers face as such as limited opportunities for collaboration through ongoing professional development and a shortage of highly-qualified teachers with pedagogical content knowledge to effectively teach the STEM disciplines. It was apparent from an analysis of 2015 student data that elementary students (grades 3–5) would benefit from efforts to increase STEM readiness. For instance, over 70% of elementary students demonstrated significant weaknesses or indicated a need for further instruction in specific STEM domains such as scientific inquiry, research, and ecological sciences. The data also revealed disparities between the results of white students and minorities. Therefore, the Dillon Four school district joined with the principal investigators from the University of South Carolina to develop the *Addressing Content Connections through Ecological Science Standards (ACCESS)* program in order to enhance teachers' content knowledge, and subsequently improve pedagogical practices and student achievement through project-based learning (PjBL) experiences.

Improving Teacher Quality (ITQ) Grant Program

