

Florida's Developmental Research Schools: The Future of Education in Practice

STATE UNIVERSITY SYSTEM / DEVELOPMENTAL RESEARCH SCHOOLS / 2013-14 ANNUAL REPORT











Florida's Developmental Research Schools: THE FUTURE OF EDUCATION IN PRACTICE



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The world is changing, and the pervasive K-12 educational model must adapt and improve to prepare students for success in the 21st century. *Florida's developmental research schools are designing, testing and disseminating new innovations in teaching and learning to answer that challenge.*

The 1991 Sidney Martin Developmental Research School (DRS) Act set the requirements for Florida's four developmental research schools housed at Florida Agricultural & Mechanical University, Florida Atlantic University, Florida State University, and the University of Florida.

Under the bill, our joint mission is clear — to lead Florida's public schools into the future. Each DRS school uses an admission process that creates a student body reflecting the demographic diversity of the state's school system. Our curricula heightens emphasis on teaching the vital STEM subjects while incorporating other programs such as athletics and the arts to educate the whole student, while working for success for all students.

Developmental research schools serve as incubators for new educational approaches, such as the small but powerful learning communities created in P.K. Yonge's new elementary wing, as well as demonstration and training sites for Florida's aspiring and practicing educators, such as the National Science Foundation-funded Argument Driven Inquiry project at FSUS.

DRS research and demonstration projects have identified and brought instructional solutions to school districts throughout Florida and the nation, and have built strong global connections with Canada, China, Belize, Indonesia, Paraguay, Venezuela and other nations.

The four developmental research schools are involved in designing and testing systems aligned with Florida's Department of Education policies and initiatives — including the new and rigorous Florida Standards — focused on improving outcomes for ALL students. We must provide a comprehensive and enriching educational experience for our students, while we accomplish our mission to develop and disseminate research-proven "best practices" in teaching and learning that will make a difference for Florida's citizens and its knowledge-based economy.

If our nation is to generate a greater number and diversity of students prepared to succeed in life after high school, then our approach to education must continue to change and innovate. The developmental research schools are committed to working with others who are interested in documenting, measuring and analyzing how changes in architecture and instructional models shift *how* students think, *what* they know, what they *do* and, most importantly, what they can *contribute* to the 21st century workforce. This work will be our return on investment for Florida's citizens.

Sincerely,

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FAMU Developmental Research School



Where Inquiring Minds Grow

The mission of Florida A & M University's K-12 developmental research school is to conduct research, demonstration and evaluation of the management of teaching and learning. The DRS, founded in 1887 and located in Tallahassee, fosters educational opportunities that encourage each student to develop personal responsibility, respect for individual differences and an inquiring mind so that each student will continue to learn, develop and apply skills to become a productive citizen in an ever-changing society.

The FAMU DRS curriculum emphasizes mathematics, science, technology and foreign languages. FAMU DRS is committed to providing a quality education for students by promoting rigor and innovative strategies for teaching and learning.

FAMU DRS faculty are conducting research projects on literacy and have proposed additional studies on education outcomes, including the encouragement of underrepresented minorities to become more involved in STEM disciplines, and to increase the educational attainment of high-risk male minority students.

Fast Facts: FAMU DRS Class of 2014

graduating student received a \$5,000 McDonald's Scholarship, first in the school's history \$90,000

in scholarship funds was received by 1 FAMU junior to attend four-year Baldwin-Wallace University in Ohio

of the school's 2014 graduating seniors were scholarship recipients

Florida Atlantic University FAU/Alexander D. Henderson University School (ADHUS) FAU/High School (HS)

Making Waves in Education

Florida Atlantic University has two developmental research schools in Palm Beach County sharing the three-fold mission of providing demonstration sites for teacher education, developing curricula, and conducting research to facilitate students achieving their full potential. The Alexander D. Henderson University School (ADHUS) is a public elementary through middle school. Florida Atlantic University High School, (FAU HS), serves grades 9–12.

Both ADHUS and FAU HS serve as research sites for FAU's colleges and departments, the public schools and the private sector as well as generating school-wide action research projects. ADHUS, which holds departmental status in FAU's College of Education, provides service to practitioners in the field through professional visitations, workshops, demonstrations and teaching tapes. The school is a site for statewide, in-service clinical educator training.



PROFILE

Florida Atlantic University High School is an exemplary public school governed by FAU. Featured in U.S. News & World Report among the best high schools in the nation, this highly selective program serves as a dual-enrollment prototype. Ninth-grade students spend the year in a typical high school classroom setting, taking advanced coursework, which prepares them for grades 10-12 where all classes are collegiate classes taken at the university for both high school and college credit. There is no charge for university tuition, lab fees, or books. In addition to a rigorous academic opportunity, FAU High School provides a broad athletic program, supports a variety of clubs, encourages service learning and competes in state and national academic contests. Students typically graduate from FAU HS with three years of college credits. Some will have even received a bachelor's degree.

2014 Dual Graduate

Through FAU High School's dual certification program, Grace Bush, 16, earned her bachelor's degree in criminal justice from FAU one week before she received her high school diploma from FAUHS. Grace begins her graduate work in public administration in fall 2014. She plans to continue on to law school, aiming high for a career with the U.S. Supreme Court. FAU High students typically can earn up to 90 college credits by the time they graduate.

Fast Facts: FAU/ADHUS and FAU/HS

Staff and researchers presented at seven state conferences and two national conferences. Students and faculty published in multiple outlets on topics including information technology, education research, biological sciences, and literature. \$78,000 in grants received by teachers and students for research in mechanical and electrical engineering, robotics, 3D design and other fields.

Florida State University Florida State University Schools (FSUS)



Innovations in the Learning Process

Florida State University Schools is the College of Education's developmental research school (DRS) at FSU in Tallahassee. The 1,700-student K-12 school provides a venue for educational research, curriculum innovation, educator development and statewide reform efforts. FSUS works with the core belief that students learn and make good decisions when they are engaged in the learning process.

Activities at the school — such as developing a mobile space flight simulator and an online learning community to improve charter schools — advance educational research, support teacher training and create grant funding for academic programs and research. The school has strong programs in STEM courses, as well as award-winning arts and athletic programs.

FSUS works in collaboration with FSU faculty and students on research initiatives focusing on instructional techniques and materials, computer-assisted learning, and reading development, as well as providing an outlet for clinical teaching internships and service learning experiences. Long-term objectives focus on curriculum development, research on learners and learning systems, and teacher professional development, while addressing education issues of the state and nation.

Fast Facts: FSUS

55

scholarships academic and athletic, awarded to the Class of 2014:

1 National Merit Scholar, 12 Florida Academic Scholars, 13 Florida Medallion Scholars, 12 Gold Seal Vocational Scholars and 17 Athletic Scholarships

ongoing research projects conducted by FSUS faculty

2

members on educational practices, teacher evaluation, instructional design, literacy, student health, mathematics, and other topics

\$500,000 CPALMS Charter grant

awarded to FSUS to improve Florida charter schools through webinars and face-to-face training reaching **1,300 educators** and serving **200,000 visitors** in an online learning community

64

industry certifications awarded to FSUS students 0 ServSafe, 22 First Responders 12 Nursing Assistants

20,000 hours of collaboration with

teachers and FSU faculty researchers FSUS educators made presentations at state, national, and international conferences

University of Florida P.K. Yonge Developmental Research School



Leading the Way in Education Innovation

With a diverse student population of 1,150 students in K-12 classrooms, P.K. Yonge, the University of Florida's DRS based in Gainesville, develops innovative educational solutions to prepare Florida's students for bright futures in academia or the workforce. P.K. Yonge focuses on educating of the whole child by integrating technology across campus, providing STEM opportunities in engineering and robotics, and offering enrichment activities including athletics, speech and debate, international exchanges, and an award-winning performing arts program.

A few of the school's recent successes have drawn national and international attention. A video crew from Edutopia.org, an arm of the George Lucas Foundation, spent a week on campus in April filming "What makes P.K. Yonge work," featuring blended learning, and small-group learning communities. A few weeks later, a film crew from Harvard University's Graduate School of Education featured P.K. Yonge's learning community model and its new, beyond-state-of-the-art elementary wing in a video. Harvard will use the video in its new open-access online course as an example of future learning and best practices of educational design.

P.K. Yonge, with its UF College of Education affiliation, implements research-based outreach programs, and presents at local, state, national and international conferences. The school's groundbreaking work in developing a highly successful, well-attended professional learning series provides "proof of concept" of the Developmental Research School potential to lead Florida's schools.

Fast Facts: P.K. Yonge DRS

\$5M

National Science Foundation grant received by collaborating faculty researchers at UF's College of Education and P.K. Yonge the U-FUTuRES project prepares 36 scienceteacher leaders to transform 6th-8th grade science instruction in their districts. More than

P.K. Yonge educators gave presentations at state and national professional conferences

in 2013-14.

On the 2014 End-of-Course assessments, 96% of P.K. Yonge students passed Algebra 1, 95% passed 9th grade Biology, and 94% passed Geometry.

27

high school courses blending online and face-to-face instruction will be available at P.K. Yonge for the 2014-15 school year as part of

the school's Waves of Innovation initiative.

DRS RESEARCH

The Proving Ground for New Approaches in K-12 Education

Design, Test and Share

Teachers and students at Florida's developmental research schools join with faculty scholars and students from their affiliated universities and other institutions to engage in research and development to design, test and share new approaches to K-12 education.

The major focus areas for research include improving science and mathematics education, advancing classroom technology, instituting new state standards, expanding special education for students with special needs, and updating teacher training.

Research Projects

Combined, DRS faculty and collaborators conducted about 50 research projects in 2013-14. Some examples from each school highlight their efforts:

FAMU DRS faculty are conducting research projects on literacy and have proposed additional studies on education outcomes, including the encouragement of underrepresented minorities to become more involved in STEM disciplines, and to increase the educational attainment of high-risk male minority students.

FAU HS has a number of student research projects in collaboration with faculty mentors in the fields of environmental, ecological and marine sciences, mechanical research, software development, engineering and computer science.

With FSU faculty, **FSUS** faculty members are conducting projects focused on literacy and reading comprehension, mathematics, student health and wellness, learning methods, teaching and evaluation. This research is conducted by FSU faculty from various departments, except for one instance where FSUS acts as a research site for a National Institutes of Health funded project led by University of Michigan faculty.

UF's P.K. Yonge DRS faculty, often collaboratively with UF education scholars, conducts critical research projects on numerous topics, including: assisting struggling male students in high school; improving math education and student test scores; one-on-one reading tutoring; and the integration of technology in the classroom.

Research Collaborations

The developmental research schools find their research homes at their affiliated universities: FAMU, FAU, FSU and UF. Their respective Colleges of Education faculty members tend to be their primary research partners. Additionally, DRS schools, combined, have built collaborations with the Institute of Education Sciences, the Bill and Melinda Gates Foundation, University of California — Santa Barbara, University of Michigan, Michigan State, Harvard, the National Science Foundation, the George Lucas Foundation and other organizations.



Grants

Funding for innovative research projects at the developmental research schools comes from governmental, non-governmental, foundations and private sources. Together the research schools brought in about \$3.9 million in grant funding last academic year.

Florida Atlantic University DRS teachers and students, for example, wrote and obtained several grants during the 2013-14 school year totaling more than \$78,000. Those grants come from sources including the Golden Bell Education Foundation, the FAU undergraduate research group (written by FAU High School students), as well as grants from Publix, FIRST Tech Challenge, Perkins, Florida Power and Light, SeaPerch, SolidWorks, and Florida State Scholars.

At UF, P.K. Yonge received nearly \$3.8 million in grant funds for eight ongoing projects. More than \$3.5 million of the total funds came from the National Science Foundation for U-FUTuRES (UF Unites Teachers to Reform Education in Science), a joint UF-PKY project to create science-teacher leaders and reform science education in middle schools (see page 9). The Florida Department of Education earmarked \$220,000 for five projects including studies on classroom technology, professional development, and district evaluation systems. Other agencies, including the National Education Association Foundation, contributed \$16,500.

Presentations

Florida laboratory school faculty and staff contribute to the education field by presenting programs, best practices and research both locally and nationally. During the 2013-14 school year, faculty from the four developmental research schools presented at more than 40 conferences.

ADHUS/FAUHS DRS staff has presented a variety of topics at seven state conferences in Florida and two national conferences.

FSUS DRS administration and faculty presented more than 30 trainings and workshops at state, national, and international conferences.

UF's **P.K. Yonge DRS** faculty and staff gave 34 presentations in 2013-14 at state and national professional conferences.

Publications: Faculty and Students

Laboratory school research and academic advances often make their way into peer-reviewed journals, books and other publications when conducted with collaborators from their affiliated education colleges and universities.

FSU's Dr. Victor Sampson was the lead author on the first in a series of books released from the National Science Teacher Association press earlier this year. The book guides teachers in the use of Argument Driven Inquiry, a method developed at FSUS to improve science education in high schools and middle schools. FSUS faculty and students contributed to the book and were a part of developing ADI. (*Read more on the ADI program, page 13.*)

In 2014, four of FAU's faculty or students published in professional journals, books, literary magazines, or conference publications on subjects from biology, mathematics instruction, and curriculum planning to literature.

Several P.K. Yonge teachers were featured in books, including Mickey MacDonald's inquiry into the ways she integrated a blended learning environment into her high school biology class and the opportunities it created, in *The Reflective Educator's Guide to Classroom Research*. Dr. Gary Boulware's inquiry into the ways a "Guaranteed C" grading policy might help increase access to his AP classes is featured in *Digging Deeper in Action Research*.



GT Supercar Mechanical Research

FAU High School student: Liam Francis, junior Faculty mentor: Allan Phipps, FAU College of Education

At FAU High School, students are designing, testing and analyzing a GT-EV Electric Supercar alongside FAU's undergraduates. Upon graduation, engineering undergraduates must know more than just theory. Teaching our future leaders skills applicable to the real world and how to apply these skills in the workplace is an equally important objective of this project to that of building the car. By analyzing the characteristics of electric cars and their future capabilities, this research addresses the question whether electric cars are a viable means of transportation from the various perspectives of the consumer, the environment and a business standpoint. High school students participate in research conducted by undergraduate students, but also conduct their own research, fabricate their own theories and expand the pipeline of STEM education for research and commerce in our global market.



U-FUTuRES at P.K. Yonge: Making Science Class Fun – and Relevant – Again

Through an ambitious education reform effort called U-FUTuRES (**UF U**nites **T**eachers to **R**eform **E**ducation in **S**cience), P.K. Yonge and UF College of Education researchers are answering a national call for schools to build a science pipeline to promote the development of scientific thinking and success in STEM fields.

This new approach, which encourages science courses and careers, is also establishing success in the future by bringing teacher training to some 400 middle school science teachers in Florida.

Led by principal investigator and P.K. Yonge director Lynda Hayes, U-FUTuRES is a collaborative research project funded by a \$5 million grant from the National Science Foundation Math Science Partnership. The joint UF/PKY project is designed to develop highly trained science teachers who will improve students' scientific thinking and depth of science knowledge by changing how the subject is taught in the middle school grades.

At the core of U-FUTuRES is a powerful, reform-based curriculum called Investigating and Questioning our World through Science and Technology, or IQWST. The curriculum, developed and tested over 10 years at the University of Michigan and Northwestern University, gives students more hands-on exposure to science and reinforces science concepts as students advance through the grades. The curriculum design has students conducting daily investigations of science phenomena, and learning how to use scientific reasoning to support their claims, while advancing their problem-solving and critical thinking skills.

To prepare teachers who can educate and energize other teachers in their home districts with this new kind of science education, the researchers created the UF Science Teachers Leadership Institute, where teachers earn a master's degree in science education in two years. By blending online and on-site instruction by UF professors, the institute prepares a cadre of highly trained science teacher leaders at middle schools in 10 school districts around the state. Then, to more widely share their research and best practices, researchers also partner with the UF Center for Pre-collegiate Education, the Palm Beach School District and the Northeast Florida Education Consortium.

TEAMING UP WITH THE DOE Florida's Department of Education Funds Several Key DRS Initiatives to Boost Teaching and Learning



The Florida Department of Education sets policy and informs research priorities of Florida's DRS public schools. Consequently, nearly every research project undertaken at DRS schools is designed to support FLDOE initiatives. A sampling of those is mentioned here, and several others are found elsewhere in this publication.

FAMU DRS: 21st Century Community Learning Center

FAMU DRS is one of more than 130 sub-grantees of Florida's 21st Century Community Learning Centers initiative providing services to approximately 81,000 low-income students and their adult family members each day. Ultimately, Florida's 21st CCLC programs will provide more than 25 million hours of after school, before school, weekend, holiday, and summer programming to Florida's residents.

FSUS DRS: CPALMSCharter.org

CPALMS Charter is an online toolbox of information, vetted resources and interactive tools that help educators effectively implement teaching standards. It is the State of Florida's official source for standards information and course descriptions designed for educators in state charter schools. *(Read more, page 17.)*

UF's P.K. Yonge DRS: Innovations for Education Transformation

The Florida Department of Education awarded \$220,000 for five initiatives at P.K. Yonge addressing classroom technology transformation, Florida standards for teacher professional development, Race to the Top and district evaluation systems.

BOOSTING STEM EDUCATION: National reports show that success in math K-8 is a determining factor for later mathematics success and choosing STEM-related careers — a critical need in today's workforce. On the P.K. Yonge campus, recent years' efforts at shoring up student math skills are seeing great results. The 2014 passing rate for the Algebra 1 End-of-Course exams was 96 percent and Geometry EOC was 94 percent. With 74 percent of 8th grade students taking Algebra 1 and achieving a 99 percent EOC passing rate, success in the middle school grades leads to more rigorous math courses for students earlier in their high school careers.



The school's emerging mathematics education agenda is focused on success for all students in K-8 math. UF math and statistics education professor Tim Jacobbe is helping P.K. Yonge teachers and students transition to the new, more stringent Florida Standards in math education, and the school's updated curriculum includes rigorous high school courses such as AP Statistics, newly offered in 2013-14 with an 86 percent passing rate.

FAU ADHUS/HS DRS: Stepping Up in STEM Education

Existing STEM projects at FAU's developmental research schools (SeaPerch Underwater ROV, Pulsatrix Robotics and the GT-EV project) introduce students to mechanical and electrical engineering, marketing, and business strategies while working cooperatively with team members to meet deadlines. The Carl D. Perkins grant, worth \$23,000, provides opportunities for teachers to participate in STEM-related conferences and workshops.

For the past two years, ADHUS principal Tammy Ferguson, in partnership with Learning Sciences Marzano Center, has spearheaded the implementation of the Marzano Teacher Evaluation Model. Six ADHUS-FAU High School teachers participated in a research project led by Learning Sciences International (an FLDOE subcontract awardee) to test links between teachers' instructional practice and subsequent student achievement.

The Florida Astronaut Challenge: From Simulation to Launch

The State of Florida Astronaut Challenge, a statewide competition with a three-day final held at the Kennedy Space Center, challenges students to master textbook materials from the Student Astronaut Challenge Manual and apply that knowledge to solve problems of aerospace science. FSUS DRS developed the program with contributions from NASA, the Florida Department of Education, local businesses, and community volunteers.

The Astronaut Challenge's textbook materials came from a project originally launched by a \$10,000 FLDOE grant to the FSUS science department to build a mobile space flight simulator. The simulator was the core of a research project designed to see if virtual immersion



could help to develop students' problem-solving abilities and group communications, and foster interest in STEM in the classroom. When students and researchers successfully completed the mobile space flight simulator, the instructional team looked for exciting ways to share the instructional methods and information, and the simulator itself. The student Astronaut Challenge was born.

The State of Florida Astronaut Challenge starts with three regional competitions held across Florida. Five-person student teams separately take a written exam based on a textbook developed for the challenge that includes the basics of terrestrial and space flight, the history of rocketry, the basic physics of flight and the operation of the retired NASA space shuttle. Their scores are averaged into a final team score and then the teams are ranked by region. The top 12 teams are invited to the state competition, where each student team must solve an engineering challenge related to the space shuttle or International Space Station, conduct and demonstrate an experiment typical of an International Space Station investigation and perform the duties of mission control and the launch, orbit and landing of the Space Shuttle Enterprise flight simulator. The team with the highest average score of all three events wins the title.

Last year, the third year of the challenge, 390 students participated in the regionals and 80 students qualified for the finals.

Teachers also benefit. Each team has a teacher/coach who attends a weekend training session at FSUS in Tallahassee. The Florida Department of Education approves all training activities for use as continuing education hours through the instructors' home school district.

FSUS will continue to use the Astronaut Challenge as a vehicle to disseminate the instructional system that has been developed to help engage students in science and foster interest in STEM-related fields.

ENGAGED SCHOLARSHIP Bringing Learning to Life



By their structure and mandate, the state's four developmental research schools are hubs for "engaged scholarship" — novel research done for public good. This type of innovative research and academic activity is pursued specifically to make a meaningful difference in education and in people's lives.

In a world where transformation is essential, developmental research schools' engaged scholars build connections with schools, families, school districts, community groups, and government agencies to lead innovation in education. The laboratory schools' students, faculty and affiliates have conducted more than 50 research projects in the past academic year alone, all with the aim to help improve the educational experience and success of all students throughout Florida.

Engaged Scholarship in Action

At FAU High School, students are designing, fabricating, testing and analyzing a GT_EV Electric supercar

alongside FAU's undergraduates. FAU High School students, under the mentorship of FAU professor Allan Phipps, are creating the electric car through the STEM initiative. The FAU GT-EV (electric vehicle) project encourages a hands-on approach to address the relevant problem of transportation fuel efficiency.

The students, and the GT-EV Supercar, were featured in Kit Car Builder, a leading specialty car magazine (Sept./ Oct. 2013). Beyond the objective of creating the car, teaching future leaders hands-on STEM skills applicable in the workplace is an equally important goal of this project.

More broadly, the project aims to answer whether electric cars are a viable means of transportation from consumer, environment and business standpoints by analyzing the characteristics of electric cars and their future capabilities. The high school students participate in research conducted by FAU undergraduates, and also conduct their own research and develop their own theories. More information and videos are posted at FAUmakers.com. P.K. Yonge DRS has played an integral role in a UF program to train upcoming teachers about literacy methods to help students with dyslexia. Between 15 to 20 percent of students in Florida schools have some degree of dyslexia, but teachers are typically unprepared to address their needs.

In the summer of 2013, UF special education professor Dr. Holly Lane began an intensive block of three graduate-level courses for students in a dual certification elementary and special education — track of the College of Education's Unified Elementary ProTeach program to gain this experience.



As part of their practicum experience, UF education students work with P.K. Yonge students during the Summer Adventures in Literacy program (SAIL). These courses help UF teacher candidates to learn evidence-based practices for assessment and intervention for students with significant reading disabilities, with the focus on dyslexia. P.K. Yonge teachers in the SAIL program supervise the practicum experience and serve as expert models for the pre-service teachers. In addition, students from other public schools in the region come to P.K. Yonge to receive intensive, one-on-one tutoring from the UF students.

Argument Driven Inquiry at FSUS

ADI is an instructional model developed at FSUS and led by Dr. Victor Sampson that uses laboratory experiences to help students across middle and high school science classrooms learn science content, while reinforcing scientific thinking. This new model asks students to take a new approach to acquiring information and gives them an opportunity to learn how to read, write, and speak in the context of science. Rather than taking a textbook approach, where kids must follow a specific set of instructions to get a specific outcome, students are instead encouraged to think and learn like scientists, to discover their own questions and use a logic method to find the answer.

The three-year project, funded with over \$1million from the

federal Institute of Education Science, provided training to six science teachers in biology, chemistry, life science and physical science. As part of this initial training, teachers not only learned the instructional model, but also participated in writing investigations they then piloted in their classrooms. These investigations encourage students to generate an argument that articulates and justifies an explanation for a research question as the result of their investigation. Using the ADI instructional approach not only addresses the Next Generation Sunshine State Science Standards but also standards that are associated with mathematics and language arts.

Through the results of this study, the ADI instructional model has now been adopted by many of the major school districts in Florida including Miami Dade, Bay and Pinellas counties. School districts in other states including Texas and Michigan are also looking at adopting ADI as an instructional option in their middle and high school science classrooms. Findings from this project have been shared at the National Association for Research in Science Teaching Conference, the American Educational Research Association Conference, Florida's FCR STEM Conference, and the National Science Education Conference. The first in a series of books guiding teachers in the use of ADI was released from NSTA press in the past year.

PROFESSIONAL LEARNING Growth and Educator Advancement



Continued professional growth is extremely important for teachers to stay on top of changes in both their field and the latest teaching methods to support high-quality teaching and learning for all students. In addition to attending workshops and conferences, Florida's four developmental research schools collectively provide additional options for in-service learning.

Intensives

In Spring 2014, FAMU DRS sent several administrators and faculty to the Harvard University Instructional Rounds at the Harvard Graduate School of Education. A practice that comes from the field of medicine, Instructional Rounds embodies a specific set of ideas about how practitioners can work together to solve common problems and improve their practice. It strategically builds collaborative networks of educators who



learn from one another about improving teaching and learning. In addition to the training sessions, attendees worked closely with Harvard faculty and gained hands-on classroom experience using instructional rounds techniques.

At UF, P.K. Yonge DRS hosts some 300 elementary and secondary educators yearly as part of its Research in Action program, developed in 2004 in response to a growing need for teachers, administrators and reading coaches to observe research-based reading strategies in classrooms. Program offerings include classroom observations, teacher-to-teacher mini-workshops, debriefing conversations and time to develop action plans for implementation. Research in Action days are filled to capacity within weeks of being advertised.

Another P.K. Yonge program — Summer Adventures in Literacy (SAIL), an intensive summer reading program for young struggling readers — has been expanded to include immersive and extended professional development opportunities for teachers from other schools through the P.K. Yonge Teacher Scholars program. Scholars spend the morning teaching in the SAIL classrooms and the afternoons in workshops to acquire new instructional strategies.

Professional Learning Communities

ADHUS/FAUHS is implementing differentiated professional development through Professional Learning Communities, which helps teachers enhance skills as needed to fulfill their goals. Each self-selected PLC group determines learning goals for themselves and for their students, creates a series of learning events (observation, video, book study) and sets a timeline that will guide them toward their goal. Evidence of improvements in teaching and student learning are collected and shared with colleagues. Research has supported this reform-minded professional development as having the most impact on teaching.



Online Support

FSUS CPALMS Charter and state CPALMS staff have partnered with Public Consulting Group in creating schoolbased, self-paced online professional development modules designed to assist charter schools in transitioning to the new Florida Standards. The project increased dissemination and modeling of best practices from Highly Effective Charter Schools. FSUS teachers and administration posted virtual tours, discussion boards and comment streams, news briefs, and best practices webinars. Approximately 45 video lessons have been posted on the CPALMS Charter site. FSUS teachers were also trained to be expert reviewers and lesson plan developers in an effort to create standards-based lessons. Teachers from all over the world utilize these lessons.



Multi-Tiered Systems of Support

P.K. Yonge has acquired a reputation for quality, hands-on, classroom-focused professional development that directly addresses challenges faced by today's educators. P.K. Yonge's Multi-Tiered Systems of Support is the foundation of its K-12 effort to collaborate to meet the needs of each child. P.K. Yonge's MTSS/Response to Intervention system now includes students and teachers in all grade levels.

At quarterly, grade-level Student Success Team meetings, all faculty receive ongoing training and support. Together the assistant principals, learning community leaders, MTSS specialist, school psychologist, school counselors and classroom teachers collaborate to analyze student data and make plans to adapt instruction and interventions to meet students' academic and behavioral needs. Students in need of additional instruction are identified and academic, social, and behavioral interventions are planned and monitored. The team also develops enrichment opportunities for students exceeding benchmarks or in need of a challenge (e.g., gifted and talented students).

Job-embedded, in-class coaching and support is provided to assist teachers in planning and implementing research-based, standard, response-intensive instructional and behavioral interventions.



OUTREACH AND SERVICE Best Practices in Teaching and Learning Designed with All Florida Students in Mind



Florida's developmental research schools are designing new approaches for serving Florida's schools and making major contributions to improving educational outcomes for children. To extend their successes, DRS educators undertake education efforts outside of their schools through workshops, partnerships, presentations, and by sharing resources online. Their activities are legion; a sampling follows.

Workshops

Developmental research school directors designed a way to update educators on curriculum changes and professional development opportunities. In summer 2014, P.K. Yonge hosted the First Annual Developmental Research Schools Best Practices Drive-In Conference. Free to Florida educators, faculty and administrators from each laboratory school presented DRS-tested methods for applying Florida's instructional framework in their classrooms, and guidance on professional learning opportunities for more than 170 attendees.

Partnerships

DRS schools create partnerships to develop and share their research efforts to reach teachers and school leaders. Examples of how these partnerships work are seen in a number of DRS projects: At UF, a \$5 million National Science Foundation Math Science Partnership project teams P.K. Yonge and UF's College of Education with 10 Florida school districts. Together they lead a transformation in middle-school science education for the most underserved students in our state's rural and urban schools. The change begins with teacher education — in a two-year master's program that develops science teacher-leaders who go on to train district science teachers on best practices.

FSUS has partnered with The Florida Center for Reading Research as a continuing part of the Florida reading assessment project for developing enhancements to the Florida Assessments for Instruction in Reading (FAIR). The study included two new Internet-based tasks and an improved system for the reading comprehension screen in FAIR. Based on analyses of results of these tasks, FCRR can create a computer-adaptive version for statewide use. Second was the Syntax Task, which required students to read sentences and select the best syntactic elements.



Presentations

Educators from 30 Florida school districts, South Carolina, Canada, Abu Dhabi, China, Belize, Paraguay and Venezuela traveled to P.K. Yonge during the 2013-14 school year to observe in classrooms and consult with teachers. The feedback from educators participating in P.K. Yonge Research in Action days, Summer Scholars Academy, workshops and conferences is consistently and enthusiastically positive. In the academic year, P.K. Yonge led 43 state, one national, and three international learning institutes on literacy, teaching and learning in 21st century spaces, reading and writing, professional learning, and transforming mathematics, for more than 300 participants.

Global Exchanges

P.K. Yonge has created a student exchange program with the Nanjing Experimental International School, a universityaffiliated laboratory school in China much like Florida's four developmental research schools. In a series of trips, four P.K. Yonge educators have led 31 P.K. Yonge students to China and, in exchange, the school community hosted 39 Chinese students in two visits to Gainesville.

Online Resources

Beginning in fall 2014, the DRS schools will jointly launch a free, quarterly e-publication, the *Florida Lab School Journal*. Coordinated and edited by FSUS's literacy coach, the journal will inform Florida's educators about best practices being designed and tested in Florida's developmental research schools. Themes for the first two issues are Establishing School and Classroom Communities, and Technology and its Use in the K-12 Classroom.



FSUS Program Keeps Florida's Charter Schools in the Educational Loop

Collaborate, Plan, Align, Learn, Motivate, Share

Today Florida has more than 600 charter schools enrolling more than 200,000 students. CPALMS Charter (CPALMSCharter. org) was created as online learning community to allow charter school teachers the opportunity to collaborate and share best practices. This free online resource not only offers teaching materials, lesson plans and project ideas for all grade levels and all subject areas; the constantly evolving site also provides charter school leaders and teachers with access to Florida State Standards, discussion forums and tips on best practices.

Created in 2012 by FSUS and led by principal investigator Dr. Lynn Wicker – in partnership with the state's existing CPALMS program (an online clearinghouse for learning materials for public school administrators, teachers, students and parents) – CPALMS Charter evolved in response to a Florida Department of Education initiative and was funded through the FL DOE Office of Independent Education and Parental Choice/Charter Schools.

CPALMS Charter also provides professional development for Florida's charter schools. The project manager for CPALMS Charter has held more than 40 training sessions for educators, including webinars, face-to-face meetings and conference sessions since its inception. The training reached more than 1,300 participants, plus an undocumented number of participants who viewed training through social media. Regional coordinators for CPALMS have conducted more than 15 additional training sessions at Florida charter schools.

Reaching teachers in another format, CPALMS Charter hosted a social studies retreat in early 2014. Thirty-five participants from across the state converged in Tallahassee for the three-day training on CPALMS Charter, CPALMS and methods to contribute resources to the website.

Taking advantage of Web technology to build statewide professional knowledge and capabilities, CPALMS Charter encourages teachers to upload content to the site, where it is thoroughly vetted and then shared with other teachers.

TECHNOLOGY

Developmental Research Schools Model Teaching and Learning for the 21st Century



TeachLivE Lab Simulates Classroom Experience

Technology is now nearly ubiquitous on school campuses. At Florida's developmental research schools, teaching and learning needs motivate how and which technology is implemented.

In addition to using technology for student learning, FSUS has integrated technology for teacher training and professional development. FSUS uses FSU College of Education's TeachLivE Lab — a mixed-reality teaching environment

— with first-year teachers to help improve classroom management techniques.

In a typical lab session a student teacher is placed in a simulated middleschool classroom. Virtual students — with personalities based upon those typically encountered in a middle school classroom — act out different scenarios depending on the objectives of the



lesson. Teachers can interact with the virtual students and manage the classroom just as they would in a real classroom, without placing the learning process of any actual students at risk. FSU's College of Education is one of only 12 colleges in the country with a TeachLivE Lab.

21st Century Waves of Innovation

At P.K. Yonge, curriculum — as well as teaching and learning models appropriate for the 21st century learner — drive the implementation of new technology in the classroom. Recent technology initiatives have, in part, been designed with the knowledge that a transition to a new 21st century campus is imminent, with a new, prototype elementary school building already occupied by young students and their teachers.

Blended-learning, which combines the use of online and classroom education, creates classrooms that fully integrate technology across the curriculum through hands-on exposure to the latest hardware, software and successful learning strategies. Blended learning can include anything from online access to information off-site, to in-class use of interactive white boards, iPads or computers.

Faculty members have produced 27 robust, frequently accessed and sustainable online highschool courses for the 2014-15 school year through a multi-step design process project called *Waves of Innovation*. The project (2011-present) invites faculty to craft proposals to develop technology-supported learning designs that are grounded in individualized instruction, provide learning assessments, supply 24-7 access to content, and are flexible enough so students can use them anytime, any place.

Faculty members identify questions or curriculum gaps, and describe the implications for what effect the addition of technology would have on teaching and learning first. They then pinpoint how that information could best be delivered with the assistance of technology — either online or face-toface. Important goals of each project submission also include students developing skills of self-directed learning, personal responsibility, autonomy and access to educational content outside the classroom.

Each school year presents opportunities to share the work at P.K. Yonge through conferences, presentations and outreach. During a poster session at the FETC conference in early 2014, P.K. Yonge's work on blended learning piqued the interest of <u>Edutopia</u>. <u>org</u> — an education website published by the George Lucas Foundation. The group spent five days filming at P.K. Yonge, and will feature the school on its website (<u>http://www.edutopia.org/schools-that-work</u>) that highlights best practices and case studies from K-12 schools and districts that are improving the way students learn.





Using the Digital Citizenship Curriculum from Common Sense Media, FAU ADHUS elementary students learned digital literacy and citizenship. The school had one Digital Citizenship Certified Educator for 2013-14 and will apply to be a Common Sense Media Certified School for the 2014-15 school year.

For 2014-15, ADHUS STEAM Lab students will participate in Earthenware Explorations. Working with an FAU professor in art education, students will learn the science, technology, engineering, art, and math behind ceramics. From 3D printing rollers to using the pottery wheels, students will learn how there is more to clay than meets the eye.

Florida's Developmental Research Schools



Developing and testing educational models for today and tomorrow





Sharing best practices with educators throughout the state of Florida

Bridging the gap between research and classroom practice

Supporting the development of ALL of Florida's students