

NEED FOR THE PROJECT AND PROJECT DESIGN

Imagine the possibilities if a student who is struggling in mathematics had a personalized Learner Plan that through contributions from himself, his parents, support staff, and teachers provided a path for learning to address his individual needs. He logs into his school system role-based portal, providing him with a display of the most relevant data about his current math performance including a formative assessment taken earlier in the day. The data show that he has yet to master yesterday's standards and his teacher, after analysis of the data, has used her connection into the data system's Learning Marketplace to identify learning activities and resources to automatically populate his Learner Plan. These are immediately accessible for his use and to formulate a plan for his remediation of standards not mastered.

The factory-school model is creating a generation of bored, disconnected youth. Students today are born into the information technology age where society thrives on personalized engagements 24/7. When they come to school, they are quickly turned off by the one-size-fits-all instructional approach to their learning (Prensky, 2008). Our nation has recently evaluated the benefits of data systems in education (US DOE, 2009) finding “the greatest perceived area of need among districts is for models of how to connect student data to instructional practice” and recommending “that to influence teachers’ day-to-day instruction, systems must provide data in a timely and relevant manner.” Forsyth County Schools (FCS) proposes to deploy such a system. This transformational system eclipses the current paradigm that results in silos of data, replacing it with a single system grounded in our existing student information system, extended to include standards-based learner plans and a content management system where activities and resources

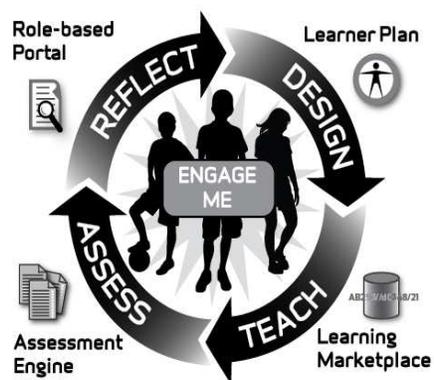
are matched to students’ current performance level and individual learner characteristics. This system will be viewed in a user interface that engages learners as well as teachers, leaders, and parents.

To match the student focus of the innovation, FCS is calling the project ***EngageME – P.L.E.A.S.E. (Personalized Learning Experiences Accelerate Standards-based Education).***

EngageME will address Absolute Priority 2: Innovations that Improve the Use of Data.

FCS has multiple software applications which contain student data, assessment data, and learning resources. In the present, silos of information include Full Time Equivalent/Program data for state and federal reporting, a Learning Management System (LMS) which includes learning resources and course information, the Student Information System (SIS) which provides data for multiple other applications, i.e. transportation, redistricting, and food service applications, Response to Intervention (RTI) assessment data, and access by students and teachers is in separate applications and logins. Although instruction is based on Standards, the standards are not connected to the other data. This disconnect causes teachers to be unable to analyze all student data to make smart choices for instruction.

This Investing in Innovation (i3) initiative will integrate several systems into one data system to combine a Role-based Portal so students and teachers have access to all necessary resources to reflect on student learning and teacher instruction. This Reflection will assist the design of a personalized Learner Plan which includes the student’s longitudinal and immediate feedback data from prior courses, learning preferences, and intervention



successes. Teachers will prescribe for the student content and assessments based on standards which will be delivered to the student. The student will be able to assess his or her learning and the Assessment Engine will report on, and evidentially select options, the student’s mastery of standards. Then the cycle continues – Reflect – Design – Teach – Assess. To enhance replication, the data system will use Common Core Standards and the McRel Standards Compendium as the basis for alignment. While FCS will serve as the lead district on this project with its student information system provider, Infinite Campus, the intent is to build a model to leverage across the nation in other districts.

FCS, a suburban district north of Atlanta, Georgia, is a nationally recognized leader in educational technology as recognized by local, regional and national organizations. Yet, even with superior resources and a track record of innovation, our students, teachers, and administrators have recognized the need for a next generation data system to integrate data and processes to personalize education for every student. FCS currently serves 34,500 students in 35 schools with a current growth rate of approximately 4%.

Table I: Demographic Information of Students, Drop-Out data, Achievement Data and Graduation Data. *Economically Disadvantaged (ED), *Students with Disabilities (SWD)

	*ED	*SWD	Hispanic
Current Student Population subgroups 2009-2010	20%	14%	12%
Students grades 1-8 who DID NOT MEET the passing standard in math on Georgia Criterion Reference Competency Tests (CRCT) 2008-2009	13.3%	23%	12.2%
Graduation Rate FCS 2008-2009 (District 87.6%)	52.9%	54.1%	72.7%

% of 863 dropouts in grades 9-12 during 2005-2009	38%	24%	15%
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Although scores for NCLB targeted subgroups have been increasing over the past three years, achievement for some subgroups continues to lag.

FCS considers a student as high need if he or she has more than four of the following longitudinal and current year indicators: (1) not meeting standards on a CRCT subtest, (2) scoring in the 25th percentile or below on the norm-referenced Iowa Test of Basic Skills (ITBS) exams, (3-5) a history of retention, placement into the next grade, or being over-age for the grade level, (6-7) participation in special education or RTI due to learning difficulties, (8) more than four disciplinary incidents, (9) more than four unexcused or seven total absences, (10) failing any portion of the Georgia High School Graduation Test (GHSGT), or (11) failing any class at the high school level causing them to be off track for graduation. More than 11,600 students in grades 6-12 (34%) fall into at least one risk category and more than 2,780 (8%) meet the “four or more” threshold. Of these students, 188 (7%) are ELL, 972 (35%) SWD, 886 (32%) are ED, and 1,717 (62%) are members of none of these subgroups.

Discussions began in February 2010 with administrators, students and teachers concerning how the next generation of data systems might be used to increase student achievement and student growth. The feedback included that FCS has access to lots of data, not necessarily timely, and not in one place. Longitudinal data are needed in the hands of teacher that must enable predictive decisions, not just corrective decisions. Frequent feedback is imperative to both teachers and students and all data and information must exist in one interface via one login. Students must have choices in demonstrating their learning. Both online and face-to-face learning and professional development are valued. All instruction must be based on standards and students need to have opportunities to use mobile technology.

As this comprehensive data needs assessment continued FCS began to collaborate with its student information system provider, Infinite Campus, to refine ideas for transforming education through next-generation tools for teachers and students. Infinite Campus is contributing an extension of their currently installed student information system for this project. This system will initially rely upon teachers to select learning activities from a repository (Learning Marketplace) based on data about the student to assist preparation of the student Personalized Learner Plan. This Learning Marketplace will automatically find the Common Core State Standards in mathematics and English language arts, aligned to the Georgia course taught by the teacher, pre-filtering the learning activities to a useful subset. When scaled nationally, sufficient data will be available to allow analysis of multiple data over periods of time to predict individual student needs and will suggest standards-aligned learning activities and formative assessment tailored for the student.

In Year One 2010-11: Preparation for Implementation

- Additional positions to implement the project will be hired and trained. This grant will provide 5 additional staff members to the department of Academics and Accountability (A&A) for this purpose (Project leader, Academic Instructional Technology Specialist, Content/Assessment Director ELA 6-12, Content Assessment Director Math 6-12, and 1 Academic Coach to provide professional development. Also included are 2 additional staff members for the Department of Information Systems and Support (IS) for application development, development of training, and database maintenance. (Programmer/developer and Data Specialist).
- Data collections for the University of Georgia (UGA) Program Evaluation Group, our independent evaluator team, will be developed, reviewed and tested.

- Schools will be divided by the UGA Program Evaluation Group for middle and high schools, dividing high need students in approximate treatment and control groups and will be randomly assigned to the implementation cohort.

Beginning Year One (2010-11) : Yearly processes.

- Infinite Campus will build and deliver Planning Tools (Curriculum Map and Learner Plan), Learning Marketplace, and Reporting and Analysis Tools; testing will be performed in the duplicate system “sandbox.
- A&A will create assessment items and learning resources aligned to mathematics and English language arts (ELA) in grades 6-12, Common Core and revise as needed. The IS will design and build student, teacher, and administrator portal interfaces to provide access to multiple systems from one screen.
- IS will develop, implement and modify, when necessary, training in the use of the portal interface and the data system to all users, using direction instruction, online instruction, and train-the-trainer models.
- Data collections for the UGA Program Evaluation Group will be exported, reviewed and submitted at requested intervals. This Group will analyze achievement data at project’s end to determine outcomes.

In Year Two (2011-2012)

- The middle and high school implementation groups will begin using *EngageMe*.

In Year Three (2012-2013)

- The middle and high school control groups will begin using *EngageMe*.

In Years Four and Five (2013-2015)

- All middle and high schools will be using *EngageMe*.

- A&A and IS will continue to train teachers and students in the use of the data system.

In Year Five (2015-16)

- UGA Program Evaluation Group will make outcome determinations on year-end data.

Goals of the FCS i3 Project

The goals for this i3 project are to 1) increase student achievement and student growth as evidenced by reduction in numbers of high need students in subgroups and in total, 2) decrease dropout rate in subgroups and in total, and 3) increase graduation rate for high need students, students in subgroups and in total.

Intended Outcomes of FCS *EngageME*

- Appropriate real-time student data are available through Personalized Learning Plans.
- Individual student needs drive instruction and intervention.
- Students are provided learning activities and resources matched to their performance level and learner characteristics through the Learning Marketplace
- Targeted professional learning for personalized teaching and learning to support mastery of standards will be delivered.
- Common Core Standards aligned to Georgia Performance Standards will be in place.
- Online, standards-aligned formative assessments will be used.
- A role-based user interface will be delivered to teachers, administrators and students.

Measurable Effects of FCS *EngageME*

- A decrease in the number of students grades 6-12 who have 4+ indicators of high need by 10% by the end of year 5 in all subgroups and in total
- Increase student achievement and student growth by decreasing numbers of dropouts by 5% by the end of year 5 in all subgroups and in total

- Increase on time graduation rate of all students, with a focus on high need and subgroup populations, by 5% by the end of year 5.

STRENGTH OF RESEARCH, SIGNIFICANCE OF EFFECT, AND MAGNITUDE OF EFFECT

Our testable hypothesis is: Providing personalized learning experiences through an integrated data system using actionable data to inform instructional decisions will result in one or more of the following:

- 1) A reduction in the number of students identified as high need**
- 2) A decrease in the dropouts**
- 3) An increase in the graduation rate**

FCS acknowledges the unique, untried nature of this development grant proposal. While untried, we argue 1) the proposed data system addresses needs identified by the US Department of Education; and 2) the system responds to specific calls from the federal government for design and deployment of precisely such a system.

First, the need for the system we propose is great, not just in FCS, but across our nation. Means, Padilla and Gallagher (2010) indicate the distinct data systems districts currently possess or are hoping to acquire (student information systems, data warehouses, curriculum management systems, assessment systems) and report on their use. The authors describe the problems inherent with these distinct systems, stating “Although not a problem in principle, the use of multiple systems can be a problem in practice.” FCS has all of these distinct systems, plus several more, and has attracted national attention for the high quality and depth of use of these systems by all stakeholders. But, despite having the vision and the will to expend significant resources to deploy such systems and invest heavily in staff development to support their use, FCS encounters the same problems as districts in the sample used by Means, Padilla, and

Gallagher (2010). Our stakeholders identified the same two areas where data use was lacking. In the words of Means, Padilla, and Gallagher (2010) these are “tailoring instruction to the skill needs of individuals or small groups” and “deciding whether or what to reteach.” Our proposed system will make these data uses transparently simple by comparison to the silos of data we presently have as a consequence of deploying distinct data systems.

Second, in the National Educational Technology Plan (2010), the Office of Educational Technology (OET) calls for new systems to be designed. Under the heading “Grand Challenge Problems” OET states grand challenge 1.0 is “Design and validate an integrated system that provides real-time access to learning experiences tuned to the levels of difficulty and assistance that optimizes learning for all learners, and that incorporates self-improving features that enable it to become increasingly effective through interaction with learners.” Our proposed system, developed through our private match partner, Infinite Campus, will meet this challenge.

The following research is provided to support the likelihood of a positive impact on student achievement.

Personalized Learner Plan Addressing High Needs: Personalized attention is the recommended direction for success in the 21st century (Jenkins, J. & Keefe, J., 2001). Research indicates that when instruction is matched to learning style and individual differences, student achievement and student growth increase (Dunn, 1995; 1999; Felder, 1993; Riding & Grimly, 1999). Dropout indicators give districts a head start to avert the dropout trajectory of a student. By collecting these data, school systems can pinpoint students who are likely candidates for additional support (McNeil, Coppola, Radigan, Heileg, 2008). Certainly, districts already track and rely on student performance data. But not all data systems are created equal. The data from some systems are vague, easily misinterpreted, or slow in coming; which makes it unfeasible to

use the data to guide decision making. Creating a system that collects the right data is essential to high student performance.

Formative Assessment Data Informing Mastery of Standards: For student achievement and student growth to accelerate, feedback to the teacher and the learner must be timely and specific (Black & William, 1998; Stiggins, 2007). Learning gains from the use of formative assessments were proven to have an effect size 0.4 to 0.7, equivalent to achievement in mathematics raising the score of a nation (U.S.) to one of the top five according to the Trends in International Mathematics and Science Study (TIMSS) (Black, P. & William, D., 1998). By matching formative assessment to standards with the analytics to select remediation or enrichment, the time lag of teacher preparation and response will be minimized by having comparison of current and past assessment immediately, allowing just-in-time re-teaching or acceleration where necessary.

Learning Marketplace Providing Standards Aligned Activities and Resources: Learning objects, or lessons, in the Learning Marketplace will include successful interventions for sub-group populations, their creators being teachers and content specialists, i.e. ELL, SWD. Learning object systems present yet another technology-based instructional delivery environment with exciting features and attributes that can empower learner-driven experiences and promote cognitive processing if pedagogical considerations are taken into account in their development and evolution (Bannan-Ritland, Dabbagh, & Murphy, 2002). These systems have great potential to capitalize on the goal-oriented nature of human learning processes as well as allowing learners to associate instructional content with their prior knowledge and individual experiences as detailed by Bransford, Brown & Cockling, 1999. Whether the future goal of our students is the world of work, technical college, a research university, or to higher degrees; the key to unlock

those doors is the high school diploma. *EngageME-P.L.E.A.S.E.* will focus on getting each student to that point.

EXPERIENCE OF FORSYTH COUNTY SCHOOLS AS ELIGIBLE APPLICANT

FCS's leadership in utilizing technology to improve student achievement is known throughout Georgia and our nation. In 2005, the Forsyth County School Board was awarded 1st place in the large district category by the National School Boards Association and Center for Digital Education for being the nation's most digitally advanced school board. The award recognized our School Board's efforts in applying information technology to better communicate and engage with the local community and constituents, and improve the delivery of services and quality of education to public schools. Technology Services makes up 16% of the district's operational budget. FCS is the consistent leader in student achievement in Georgia, receiving 19 state accountability awards in the past year, recipient of Title I Distinguished Schools, State Superintendent's Distinguished Achievement Awards, and achieved district wide AYP goals.

Technology Infrastructure: All standard classrooms in FCS are equipped with an interactive whiteboard, four computers, and teacher laptop. Schools have mobile laptop carts, wireless capability school-wide, cameras, and video recorders. FCS provides 2 Gig WAN connections to each school site with 400MB to the Internet.

Information Systems: The district student information system (IC) is the database of record to populate many applications, i.e., transportation, food service, assessment, learning management system, media services, textbook management, and GIS/Planning. Custom applications have been created to supplement data analysis for student achievement. An award winning digital enterprise records management system was designed and implemented in 2006 and now has been scaled to contain 200,000 archived student records.

Academics and Accountability: FCS continuously seeks opportunities to innovate while holding ourselves to high standards of performance. The district has contracted with the State of Georgia to foster innovation through a reprieve from certain State laws and SBOE rules while holding teachers and students to even higher accountability measures, Investing in Education Excellence (IE2). Additionally, FCS is a standards-based system and has a well-defined Instructional Framework, Classroom Observation Tool (web-based), and Professional Appraisal Cycle 2.0 (teacher growth and evaluation instrument). FCS has instituted a K-8 standards-based grading and reporting system and as part of the district strategic plan, has articulated a Graduate Profile. Several different learning paths are afforded to FCS students through mastery-based learning and no seat time requirements. The district offers a virtual school, a non-traditional charter high school, evening school, and an expanded opportunity for students to earn high school credit in middle school. The district has leveraged a LMS to promote a blended learning model in all classrooms K-12.

Even with this abundance of infrastructure, support, and standards focus, the data and information generated from these efforts stand alone in the teachers' hands and require great resources of time and effort to manually analyze them. The lack of integration of the data and information to students, teachers, and administrators continues to allow students to be at risk of not achieving growth or graduating since intervention is delayed.

FCS is a high-achieving district that met AYP in 2009 and graduates over 87% of its students annually. A focus on moving more students to higher levels of performance was evidenced by an increase in the percentage of students scoring in the EXCEEDS range on the CRCT in 2009.

Table II. Grades 3-8 - % Students with score of EXCEEDS on the 2009 Georgia CRCT

Mathematics English Language Learners (ELL)

Subgroup	2008	2009	Difference
All	48%	53%	+5%
Hispanic	22.4%	27.8%	+5.4%
White	50.1%	54.9%	+4.8%
SWD	23.2%	24.9%	+1.7%
ELL	11.4%	17.2%	+5.8%
ED	23.4%	27.6%	+4.2%

Table III. Grades 3-8, % Students with score of EXCEEDS on the 2009 CRCT English

Language Arts

Subgroup	2008	2009	Difference
All	45.2%	57.4%	+12.2%
Hispanic	22.7%	33.1%	+10.4%
White	46.5	59.1%	12.6%
SWD	24.1%	29.3%	+5.2%
ELL	17.9%	24.6%	6.7%
ED	22.4	32.8	+10.4%

Table IV. Grades 3-8, % Students with score of MEETS OR EXCEEDS on the 2009

Georgia CRCT English Language Arts

Subgroup	2008	2009	Difference
All	94.7%	96.1%	+1.4%
Hispanic	74.1%	87.9%	+13.8%
SWD	80.5%	78.7%	-1.8%
ELL	45.5%	64.1%	+18.6%
ED	82.1%	87.4%	+5.3%

While improvements in graduation rate were made for Hispanic, ELL, and Economically FCS has significantly closed the achievement gaps between groups of students at the high school level based on the 2009 Enhanced GHSGT. Hispanic, ELL and ED students showed significant gains although achievement gaps remain. The greatest growth areas are with SWD, ELL, and ED.

Table V. Graduation Rate Highlights

Subgroup	2008	2009	Difference
All	85.8%	86.7%	+ .9%
Hispanic	56%	70.6%	+14.6
White	88.8%	88.5%	-.3%
SWD	57.5%	52.1%	-5.4%
ELL	43.4%	52.5%	+9.1%
ED	55.7%	64.7	+9%

PROJECT EVALUATION

Research Objective. The major research objective of this study is to determine if providing educators and students with an integrated data system of student information that identifies student needs and furnishes relevant learning activities improves student achievement, increases graduation rate, and reduces dropout rate for high needs students. It is hypothesized that easier access to comprehensive student data will help teachers identify student needs more quickly and help them address those needs. The learning activities in the data system will keep students engaged and provide positive academic outcomes which will keep them in school and on track for graduation.

Research Design. FCS will stagger implementation in middle and high schools, with schools divided between an initial group and a delayed implementation group. Schools in the initial implementation group will start in Year 2 and schools in the delayed implementation group will start in Year 3. Schools will be paired based on the percentage of high needs students; the two with the highest percentage will make up the first pair, the third and fourth highest will be the second pair, and so on. Within each pair, one school will be randomly assigned to the initial implementation group and the other to the delayed group. Thus the delayed schools are not a true control group after Year 2, but a comparison. Growth curve modeling will be used to analyze change in academic outcomes; it is expected that the two groups will have different slope coefficients. Students will be nested within grade cohorts within schools. Because students in these grades have multiple teachers, teacher effects are difficult to quantify. As part of the process evaluation, schools will be rated on implementation fidelity, and those scores will be introduced into outcome data analyses.

Evaluation: Both quantitative and qualitative data will be collected from multiple data sources to answer process and outcome evaluation questions. Multiple data sources will allow for triangulation of data as described by (O'Donoghue and Punch, 2003) as a “method of cross-checking... to search for regularities in the research data.”

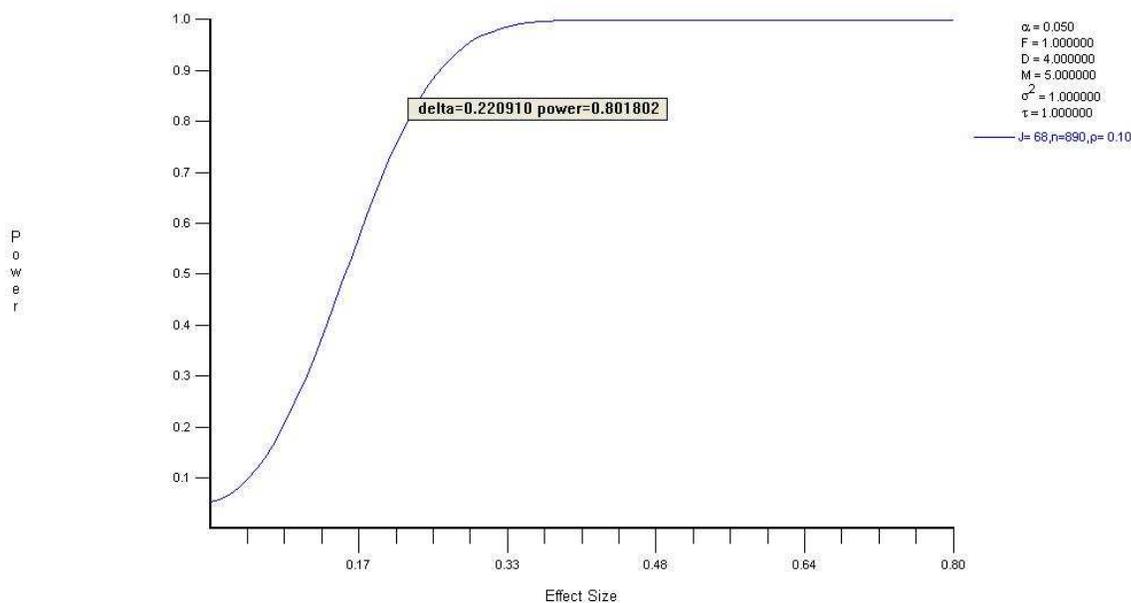
Outcome Evaluation: The outcome evaluation will address the following questions: 1) are students mastering the objectives identified by their teachers and the data system?; 2) does student achievement increase after use of the data system begins?; 3) does use of the data system close performance gaps among subpopulations and reduce the number of students identified as high needs?; and 4) does use of the data system increase on-time transitions, decrease the dropout rate, and increase graduation rates?

Evaluators will use formative and summative tests from the data system to answer the first question. County benchmark test scores and state test CRCT, End Of Course Test (EOCT) and GHSGT scores in core subjects (English/language arts and math) will be tracked for students from the year before implementation starts in their school through the end of the project. FCS will provide the student data to answer questions 3 and 4.

Data Analysis: For achievement measures, student data will be analyzed both individually and as part of grade cohorts. Analyses will use the normal curve equivalent (NCE) of students' state test scores, based on state percentiles for each year. These scores will allow us to compare changes in FCS students relative to those in the comparison group and the state as a whole, given that scores will change from year to year. In addition, we will look at NCLB subgroups to determine if there are variable rates of change. The outcome data will be analyzed using growth curve modeling techniques. Missing data will be analyzed to determine if students who drop out

of the study differ from those who remain. Depending on the randomness of the missing data, maximum likelihood estimates can be generated to use in the calculations.

Power Analysis: The power analysis was conducted assuming the randomized cluster design. Each school was randomly selected as being in the treatment or control condition, rather than selecting individual subjects. We propose a repeated measures design for students nested within schools. We plan to assess students in Forsyth county at the beginning, prior to treatment, and then yearly on four years. We are interested in the growth rate of students so we propose a linear model. The curve assumes a moderate ($\rho = 0.10$) inter-class correlation. At 80% power, an effect size of 0.22 should be detected. Below is the power-effect size graph with the above estimates.



Process Evaluation. The process evaluation will address the following questions: 1) did FCS and its vendor create a data system with the features described in this proposal?; 2) are teachers trained properly to use the data system?; and 3) are teachers and students using the data system appropriately?

Rigorous process evaluation can contextualize the results of outcome evaluation by helping to explain observed effects, describe how well the program was implemented, and provide directions for increasing program efficiency and effectiveness. Process evaluation creates a continuous feedback loop to improve the current program so that long-term student achievement is enhanced. These methods provide a large amount of rich data, both quantitative and qualitative. Evaluators will monitor the creation and refinement of the data system, tracking the development process through meetings, documentation and interviews. This section of the process evaluation will be most prominent in the first year, but will continue throughout the project as the user needs evolve and the inevitable changes occur. We will measure staff training using documentation (such as schedules, sign-in sheets and curricula), interviews, surveys and focus groups. Trainers will be interviewed to gather their views on the progress of their students. Teachers and administrators will be surveyed yearly to assess their attitudes toward both the data system itself and the training they receive. Focus groups made up of teachers and administrators will provide in-depth qualitative data to supplement the more quantitative survey data.

We will also utilize surveys and focus groups to study how staff and students are using the data system. In addition, we will study usage through tracking mechanisms in the data system software. Evaluators will visit schools and produce a structured written report of their findings for each school, as well as rating the school on its level of implementation of a data-driven system. The ratings will be based on best practices research at the national level, which also underpins the School Keys system the state of Georgia now uses to evaluate schools. This insures that the standards being assessed are consistent with expectations at both the state and national level. Evaluators will provide feedback to RCPS at least quarterly in order to facilitate program improvement.

IRB Approval: The evaluation will adhere to UGA guidelines for working with human subjects as approved by the University of Georgia Institutional Review Board (IRB) and the Human Subjects Office. The Program Evaluation Group has experience in preparing proposals for IRB approval and following approved guidelines. This includes such considerations as securing active permission from both adults and minors, insuring anonymity or confidentiality of survey data, and secure storage of sensitive data such as survey responses and personal data. Collected data will be maintained in a secure environment and the evaluation team will adhere to UGA and National Institute of Standards and Technology security policies and best practices.

STRATEGY AND CAPACITY TO BRING TO SCALE

FCS has worked for almost twenty years to develop capacity to design and sustain innovative educational practices that support teaching and learning. Since the cornerstone strategic plan of 1990, FCS has been affiliated with the Center for Leadership and School Reform and has worked toward the achievement of ten district standards that support a continuous improvement model. The current FCS 2009-12 Strategic Plan outlines district-wide goals that reflect the district's capacity to take student learning and achievement to the next level through expanding educational opportunities, developing a highly qualified workforce; increasing community involvement and effective communication; and pursuing alternate funding and resources. FCS aligns all personnel, financial resources, and management activity to align with and support these goals, and this bold i3 development grant project is no different.

Partners: A key partner in this project is our student information system vendor and private match entity, Infinite Campus. Infinite Campus will, as their in-kind match, develop the fully integrated data system we propose. Specific extensions of their current student information system include Learner Plan (planning tools), Learning Marketplace (standards-aligned learning

activities and lesson plans), and Assessment Engine (formative assessment/reporting tools). Infinite Campus applications currently manage more than 4.5 million students in 43 states. Infinite Campus customers range from districts with fewer than 100 students to those with more than 100,000 as well as regional consortia, state departments of education and the federal government. The scalability of our proposed system is simple: because Infinite Campus is extending their current student information system and not custom developing another distinct data system, all extensions for our proposed system will be available to all Infinite Campus customers. And, because Infinite Campus will incorporate the proposed system into its core product, all of their customers will receive the benefits at no additional system cost.

UGA will design and implement a rigorous external research study to test the efficacy of our integrated data system. The UGA evaluation team will be led by Dr. J. Michael Spector, a professor in the Learning and Performance Support Laboratory at UGA, who brings expert understanding of the education field through experience as a principal investigator on national and international educational grants. His experience with federal grants, including a National Science Foundation grant evaluating learning in complex domains, will be extremely beneficial for the proposed i3 grant. The Program Evaluation Group has a long track record of conducting rigorous program evaluation research, technical assistance to schools, quantitative and qualitative data collection, and information analysis at the local, state, national, and international levels. The research team also has access to vast resources through the College of Education and the UGA as a whole, including the expertise of the faculty and graduate students affiliated with the Georgia Center for Assessment, the Learning and Performance Support Laboratory, and the Research, Evaluation, Measurement and Statistics program.

This project will reach more than 34,500 students at a total cost of \$4,738,500 for

development and research plus the current student information system cost, or approximately \$10.00 per participant per grant year plus \$8.00 FCS license of Infinite Campus student information system which FCS already budgets. As the body of data and learning resources in the Learning Marketplace increases, other districts and state education agencies looking to infuse their data systems with the power of personalized, standards-focused instructional activities and learning plans could reach 100,000 students at a cost of \$800,000/year; 250,000 students at \$2,000,000; and 500,000 students at \$4,000,000 with additional professional and content development costs at their discretion. Additional mechanisms to broadly disseminate information to support further development, expansion, and replication include professional associations; federal, state, and local departments and agencies; and local colleges and universities. Specifically, district and project staff and project partners are connected with the following organizations through which project results will be disseminated: US Department of Education's Technical Working Group; National School Board Association, Georgia School Board Association, Georgia Association of Educational Leaders, Consortium of School Networking, and the University of Georgia. The evaluation of outcomes will provide significant direction for other school districts in the nation that choose to follow this model.

SUSTAINABILITY

In addition to the \$4,738,500 in requested grant funds, FCS will coordinate an estimated \$947,700 in private funding, in-kind resources, and other types of stakeholder support to ensure that this project is completed on time and continues to operate beyond the grant period:

Table VI: Description of Support

SOURCE	TYPE/DESCRIPTION	ESTIMATED AMT.	STATUS
Infinite Campus	Private Match: Staff time, equipment, programming	\$947,700	Secured
FCS	Ongoing costs of student information system and adjunct applications (costs will be reduced year 5 due to efficiencies of the proposed system)	\$750,000+ /year	FCS Budget

As is evident from FCS’s demonstrated commitment to collect, store, use, aggregate, and disaggregate a wealth of data, the strategies and activities undertaken to achieve the benefits of this system are the joint efforts of the FCS A&A, IS and Technology Services departments. As earlier described, the Board of Education has a strong commitment to excellence through standards-based learning. We believe power shared is power multiplied and FCS, as well as Infinite Campus, has a proven track record and capacity to not only develop and implement this innovation in one Georgia district, but potentially to over 2,000 districts in the nation.

Quality of the Management Plan and Personnel (10 points/2.5 PGS)

Table VII: Management Plan

Management Responsibilities	Department/Partner
1. Secure Partners for private match and research	A&A/IS
2. Communicate grant purpose, project outcomes and timelines to all stakeholders	A&A
3. Maintain technology infrastructure and support to departments and schools	Technology Services

4. Design and build software system <i>EngageME</i>	Infinite Campus
5. Provide independent research during project	UGA
6. Provide data for review throughout the project	IS
7. Submit required reporting to US DOE throughout the project: financial and project	A&A
8. Design, implement and support role-based dashboards and review and modify throughout project	IS
9. Design, implement and support standards aligned learning activities and assessments throughout the project	A&A

Project Director for This i3 Data Initiative will be Dr. Lissa Pijanowski, Associate Superintendent of Academics and Accountability: Dr. Pijanowski has served as a professional educator for 19 years and her experience includes classroom teacher, school administrator, district curriculum leader, and school improvement director for the Georgia Department of Education making her well suited to a project of this magnitude. She holds a Bachelor of Science in Education, a Master’s Degree in Educational Leadership, and a Doctorate in Educational Leadership with an emphasis on organizational change and improvement. Dr. Pijanowski will be accountable for communicating with project partners; facilitating contracts and MOUs; soliciting feedback from district stakeholders during all phases of project implementation; ensuring that all project components are aligned with and support standards-based education; designing and implementing professional development to support project goals; and assisting the project evaluation team with data collection in support of their research design.

Bailey Mitchell has 22 years of experience in public education, including 13 years as the **Chief Technology and Information Officer** for FCS. Prior to that, he served the Georgia Department of Education as the Director of Instructional Technology where he oversaw a department of ten employees and a budget of \$150 million to build and implement the state's education technology initiatives. Mr. Mitchell holds a Bachelor of Science in Career and Technology Education and a Master's and a Specialist Degree in Educational Administration and serves on the US Department of Education's Technical Working Group. He will support the Project Director in her day-to-day accountabilities for program implementation and execution. Mr. Mitchell was recognized by the National School Boards Association and the International Society of Technology in Education with the "Making it Happen" award, an internationally recognized awards program for educators in the field of educational technology integration in K-12 schools.

Sue Derison is FCS Director of Information Systems and Support. She has 30 years of experience in public education, including 6 years at FCS. Prior to that, she served the Fulton County Public Schools as the Director of Student Information, a large urban Atlanta school district. Her experience as a teacher, school administrator, and district leader brings experience and leadership to this project, as well as her expertise in enterprise content management and process management. Ms. Derison holds a Bachelor of Science in Elementary Education and a Master's Degree in Special Education-Gifted and serves on multiple state and regional advisory groups and is a national examiner for the Baldrige Quality Award. She will support the Project Director in her day-to-day accountabilities for program implementation and execution.

WORKS CITED

- Bannan-Ritland, B., Dabbagh, N. & Murphy, K. (2002). *Learning Object Systems as Constructivist Learning Environments: Related Assumptions, Theories and Applications*. George Mason University
- Black, P., & Wiliam, D. (1998) Assessment and classroom learning. *Assessment in Education*, 5(1), 7-74.
- Black, P. & Wiliam, D. (1998) Inside the Black Box Raising Standards Through Classroom Assessment, *Phi Delta Kappan*, 80[2], 139-148.
- Bransford, J. D., Brown, A.L. & Cocking, R. (1999). *How people learn: Brain, mind, experience and school*. Washington, D.C.: National Academy Press.
- Dunn, R. (1995). Strategies for educating diverse learners. Bloomington, IN: Phi Delta Kappan Educational Foundation FASTBACK Series #384.32 pp.
- Felder, R. (1993). Reaching the second tier: Learning and teaching styles in college of science education. *Journal of College Science Teaching*, 23[5], 286-290.
- Jenkins, J., & Keefe, J. (2001) Strategies for Personalizing Instruction: A Typology for Improving Teaching and Learning. *NASSP Bulletin*, vol. 85 no 629 December 2001 p 81
- Means, Padilla and Gallagher, Use of Education Data at the Local Level: From Accountability to Instructional Improvement. Report issued by United States Department of Education, January, 2010. <http://www.ed.gov/about/offices/list/oepd/ppss/reports.html#edtech>
- McNeil, L. M., Coppola, E., Radigan, J., & Heilig, J. V. (2008). Avoidable losses: High-stakes accountability and the dropout crisis. *Education Policy Analysis Archives*, 16(3), 1–48.

O'Donoghue, T. & Punch, K. (2003). *Qualitative Research in Action: Doing and Reflecting*.
Routledge. P.78.

Office of Educational Technology, *Transforming American Education: Learning Powered by
Technology*. National Educational Technology Plan issued March, 2010.

Prensky, Marc. *Turning On The Lights -- Will we continue to trap our kids in the past?*
Educational Leadership, March 2008, Volume 65, Number 6, Pages 40-45.

Riding, R., & Grimley, M. (1999). *Cognitive style and learning from multimedia materials in 11-
year children*. *British Journal of Educational Technology*, 30[1], 43-59.

Stiggins, R. (2007) *Assessment through the student's eyes*. *Educational Leadership*, 64(8), 22-
26.

USDOE (2009). *Using Student Achievement Data to Support Instructional Decision Making*,
NCEE 2009-4067, U.S. Department of Education, Institute of Education Sciences,
September 2009