ANNUAL REPORT **2014**

SEPTEMBER 1, 2013– AUGUST 31, 2014

Innovate • Educate • Empower

KRAUSE CENTER for INNOVATION
FOOTHILL COLLEGE

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Introduction

The Krause Center for Innovation at Foothill College (KCI) has served the professional development needs of K-14 teachers, administrators, and educational leaders since 2000.

Our Vision **– to be the premier educational technology professional learning center for educators working in every role at any level.**

Our Mission **– to develop and provide excellent professional development courses and programs for educators in K- 14 systems, training them in innovative educational technology solutions that promote meaningful teaching and learning for today's students.**

The KCI focuses on innovation through educational technology, with an emphasis on science, technology, engineering and mathematics (STEM) education. Through its professional development, the KCI provides practical experience in integrating media-rich, Web, and computer-based technologies into the curriculum. By applying its three core values—innovate, educate, and empower—the KCI prepares educators to pass their enhanced knowledge and abilities onto their students to improve student engagement and learning outcomes.

Innovate • Educate • Empower

Executive Summary

Since 2000, the Krause Center for Innovation (KCI) has provided critical resources for educators, with an emphasis on applied technologies to enhance teaching and learning. The KCI's classes and programs employ cutting-edge tools and methodologies to advance subject matter knowledge, technological expertise, and professional development so that teachers are better prepared to teach and students are more engaged and better equipped to learn. Its programs focus on 21st-century learning skills—creativity and innovation, critical thinking and problem solving, communication and collaboration—with the goal of transforming teaching practices and integrating technology into every level of curriculum.

In 2013 - 2014, the KCI designed, developed, and enhanced a number of programs and events to motivate, challenge, and inspire diverse educators and future leaders. This summary shows some key highlights from the year.

1 MERIT (Making Education Relevant & Interactive Through Technology)

The yearlong, donor-funded, technology-focused education program featured an intensive Summer Institute attended by 46 enthusiastic educators from across the Bay Area. Representing 21 districts, some MERIT participants came from as far away as Petaluma, Watsonville, Pleasanton, Dixon, and Glendale in Southern California (fig. 1).

MERIT Participant Map

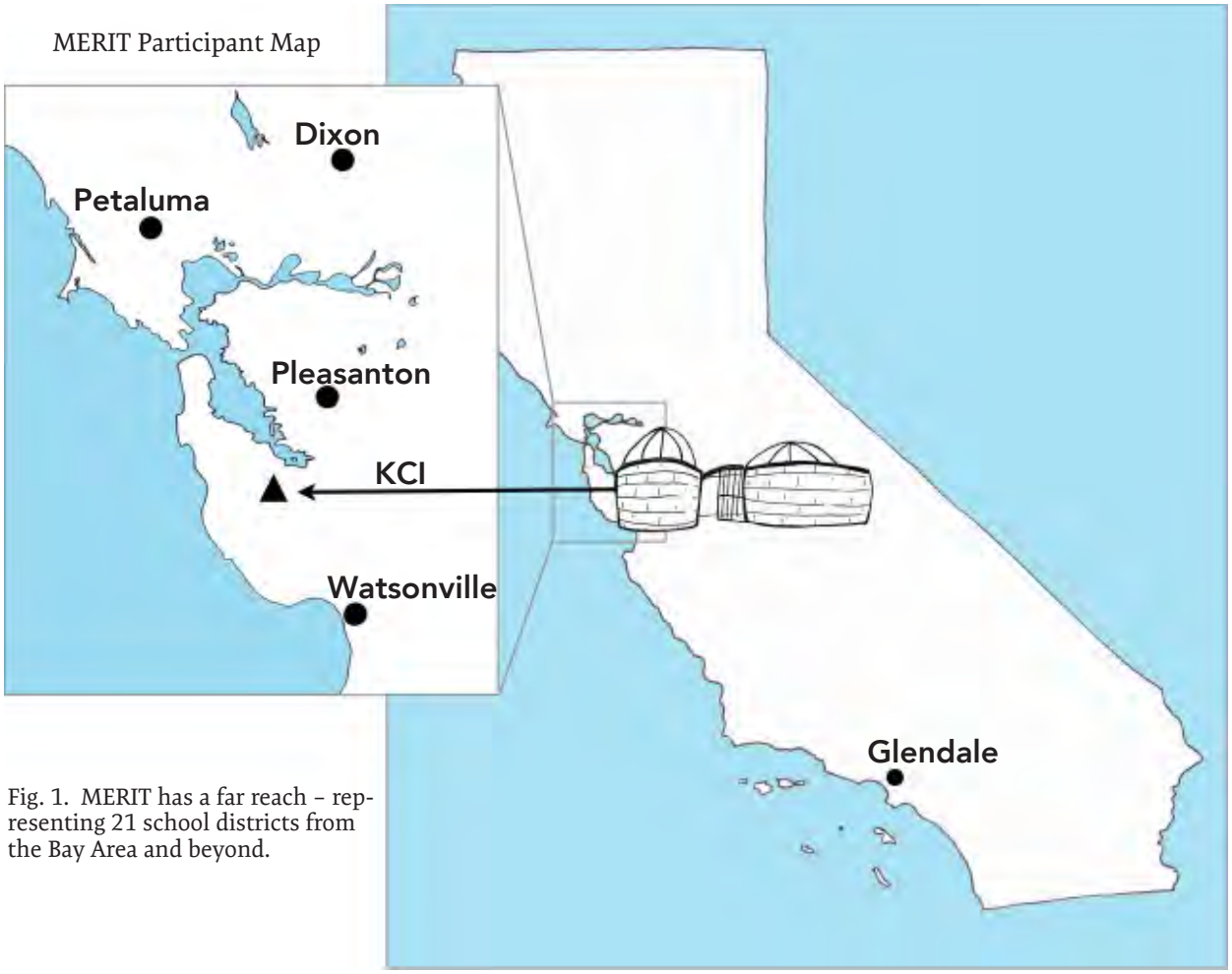

Fig. 1. MERIT has a far reach – representing 21 school districts from the Bay Area and beyond.

During the two-week institute, participants were immersed in learning new technology tools to use in their classrooms. The teachers made great strides in terms of technology proficiency and the ability to use technology effectively in the classroom. In the pre Institute survey, only 21% of participants considered themselves advanced—prepared to develop new learning environments that use technology as flexible tools so that learning in my school/district has become more collaborative, interactive and customized. Post Summer Institute the percentage changed significantly with 48% considering themselves advanced. Between the two profiles—proficient and advanced—89% of the teachers rated themselves in those categories (fig. 2).

MERIT Increases Participant Confidence in Choosing & Using Technology

Before MERIT Institute, only 21% considered themselves to be advanced. After MERIT Institute, 48% considered themselves to be advanced.

After the Institute, 89% of the teachers rated themselves as proficient or advanced in choosing & using technology.

Fig. 2. MERIT significantly increases participant confidence level to choose and use technology.

2 FAME (Faculty Academy for Mathematics Excellence)

Thanks to philanthropic support, KCI offered the FAME program for middle school and high school mathematics teachers for the fifth year. The program took a new direction for 2014 with the development of a partnership with school districts in East Side San Jose, including Alum Rock, Franklin-McKinley, and Oak Grove. East Side Union High School district also sent teachers to the program. These districts have significant numbers of English Language learners and low-income families. Thirty-two mathematics teachers primarily from these districts took part in an intensive summer program designed to increase content knowledge and promote technology to enhance the teaching and learning of mathematics.

The purpose of the program is to significantly reduce the achievement gap and to help students be better prepared to take algebra in the eighth or ninth grade. The participants showed great strides in their confidence to use technology as part of their math instruction. Based on the post-summer institute survey, their confidence in using technology increased from 15% to 93%. (fig. 3).

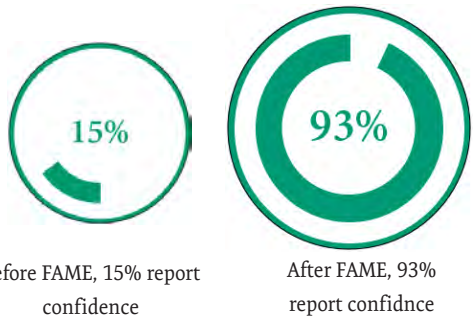

Fig. 3. FAME increased participant confidence level in using technology. Our participants were only 15% confident before the institute and reported 93% confidence following the institute.

3 Tailored Professional Learning Programs for Schools and Districts

The KCI has successfully launched its services business and is now in the third year of offering tailored professional learning programs for schools and districts. To help districts with their Common Core implementations, the KCI developed and launched the Mini MERIT program. In 2013 – 2014 The KCI conducted 15 tailored programs, including 5 Mini MERIT programs. This approach allows the KCI to work within districts to have a deeper impact on the teaching and learning within a school or district. These engagements also provide revenue to support new program development efforts, as well as operations.

4 FASTtech and Community Education Classes

There were over 1100 enrollments in FASTtech courses throughout the 2013 - 2014 academic year. The move to increasing the number of online classes is paying off, and the KCI will continue to create more online classes. Additionally, the KCI continued to expand its community education program to provide creative learning experiences for middle and high school students by offering a number of hands-on technology classes, including computer coding. Over 350 teens took advantage of these classes taught by innovative KCI instructors. These classes are fee-based and provide the KCI revenue to support operations.

5 New Program Development

There were over 1100 enrollments in FASTtech courses throughout the 2013 - 2014 academic year. The move to increasing the number of online classes is paying off, and the KCI will continue to create more online classes. Additionally, the KCI continued to expand its community education program to provide creative learning experiences for middle and high school students by offering a number of hands-on technology classes, including computer coding. Over 350 teens took advantage of these classes taught by innovative KCI instructors. These classes are fee-based and provide the KCI revenue to support operations.

Final Thoughts

Overall 484 educators from regional school districts, as well as from out of state and county, took part in KCI intensive professional development programs during 2013–14 year, with an immeasurable impact on over 49,000 students in elementary, middle, and high school, particularly English learners, underrepresented minorities, and students from low-income families.

In addition, there were over 1,100 enrollments in short FASTtech classes focused on specific technology skills. The goal of the KCI is to inspire educators to transform their teaching practice so their students are inspired to learn, thrive, and succeed.

484
Teachers Enrolled =
49,000+
Students Affected

If you have questions or comments about the 2013-14 KCI annual report, please contact any member of the KCI Leadership Team:

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Program Descriptions & Outcomes

In the report period September 1, 2013 – August 31, 2014, KCI used donations and grants from individuals and foundations, support from Foothill College, and revenue from professional development services to design, develop, and implement the following professional development programs and events:

1. **MERIT – Making Education Relevant and Interactive through Technology**
2. **FAME – Faculty Academy for Mathematics Excellence**
3. **Tailored Professional Learning Programs for Schools & Districts**
4. **FASTtech classes**
5. **Community Education Program**
6. **New Program Development**

MERIT

MERIT is the KCI's premier research-based, educator development program. It is designed to help teachers bolster their curriculum with technology-enhanced learning activities to motivate, challenge, and inspire diverse learners and future leaders. The MERIT program uses qualitative and quantitative measures to determine if a well-trained teacher using engaging technology can improve student learning. Participants have the opportunity to learn to use and contribute to a variety of resources for collaboration and are required to design projects that not only provide dynamic learning experiences for their students but also create resources that will be of value to other teachers and students near and far.

"This was the most amazing PD [professional development] I have attended! In my 10 years of teaching, I have not attended a PD, and then felt sad that it was over. There are so many things that I look forward to doing this year! I walked into the KCI a "non-techie," and now I'm walking away ready to train my colleagues!"

~ MERIT 2014 Participant

About MERIT 2014

MERIT is a ten-month program that starts each spring quarter, includes a two-week intensive summer institute, and continues with follow-up classes in the fall and winter quarters.

MERIT 2014-15 is designed to create a technology-focused professional learning experience for educators to transform teaching and learning in the classroom and school site. The two-week intensive Summer Institute was held July 7 through 18 at the KCI.

The MERIT 2014 cohort is comprised of 46 teachers, with 39 coming from the Bay Area and 7 participants from other cities in California: Dixon, Glendale, Napa, Watsonville, and 3 from Petaluma. The data in this report is based on the pre and post summer institute survey that participants completed (tables 1-4).

Table 1. MERIT Teachers by Grade Level

12	High School
11	Middle School
23	Elementary School
46	**Total**

Table 2. MERIT Teachers by County

25	Santa Clara
8	San Mateo
3	Alameda
3	Sonoma
1	Los Angeles
1	Napa
1	Solano
1	Santa Cruz
3	Private
46	**Total**

Table 3. Frequency of Middle & High School Subject Areas Taught by MERIT Teachers

9	English
7	Science
6	Math
5	Technology
4	Social Studies
3	World Languages
3	Special Education
2	Visual Arts
2	Physical Education

Table 4. Number of MERIT Teachers Participating as a Team from Same School Site

	School	District
3	Alta Vista Elementary	Union School District
3	Grant Elementary School	Petaluma City School District
3	Jordan Middle School	Palo Alto Unified School District
3	Sequoia High School	Sequoia Union High School District
3	Stocklmeier Elementary School	Cupertino Union School District
2	Lynbrook High School	Fremont Union High School District
2	Santa Rita Elementary School	Los Altos School District
2	Taylor Middle School	Milbrae Elementary School District

MERIT

What Do Teachers Do?

MERIT is an immersive program that includes ongoing professional development beyond the Summer Institute through the academic year. Teacher participants will continue to develop their skills while creating student-centered classroom projects that use digital media. MERIT teachers are responsible for producing multiple projects to ensure that what they learn is integrated into their curriculum planning and courses throughout the school year. Teachers are required to report on their progress and continue to receive feedback from KCI instructors and peers. The MERIT leadership team provides explicit training on how teachers can share their new expertise with colleagues at their schools, districts, and conferences.

"Worth every day, every minute. Happy and honored to be a part of this cohort. The very best thing of it all is the PEOPLE! Looking forward to continued relationships and collaborations with the cohort, instructors, and guest speakers. I can't wait to take all this back to MY STUDENTS! Most of all...HUGE THANKS!"

~ MERIT 2014 Participant

MERIT 2014 Goals

The MERIT 2014-15 goals are listed below followed by a brief analysis of the results of evaluation data collected from the 46 participants before and after the summer institute.

1 Create a 21st century classroom environment that models critical thinking and problem solving; communication; collaboration; and creativity and innovation for all learners.

With the advent of the Common Core State Standards, the 21st century learning skills will become even more important for teachers to understand and practice. One of the main approaches of MERIT is to MODEL the teaching and learning environment that we want teachers to embrace, adopt and implement in their own classrooms. Program participants become "students" and are expected to try numerous new technologies and methodologies. They have to critically think through how the technologies and methods are applicable in their classroom. They collaborate on projects with their peers, and produce projects and lesson plans to implement in the upcoming academic year. They go through a creative process, with feedback from fellow teachers.

At the end of the program year, participants will be able to describe the degree to which they were able to transfer or adapt the MERIT learning environment examples into their own 21st century classroom.

At the end of the summer institute, they are asked: "Thinking about the project ideas you developed and presented, briefly describe your experience with the creation process and/or the presentation process." The participants reflect on their experience, and the quotes below are representative of the group.

> *"The project development process was collaborative and supportive. We were able to bounce ideas off each other, share resources, and give honest feedback. The presentation process, while short, made me feel comfortable and confident. I have never spoken to a room full of adults with as much ease."*

> *"I'm really excited about my project, as it focuses on weaving in many of the tools I've learned over the past few weeks so all of my students will learn how to use them throughout the year. The project addresses visual literacy and audience awareness. As these help build up to our culminating project, I think the rest of my team will be excited to work on this and integrate it for all students. I enjoyed the creation process, and what I developed will be helpful for sharing with my team at school. I also loved hearing about everyone else's ideas!"*

> *"I tried to incorporate what I have learned from the two weeks in my project, including how I presented, resources I created, and so on. I was able to think more clearly about the core questions for project. I enjoyed presenting to the small group and then the whole group. It's good to feel like I'm back in my classroom with all these fantastic people."*

2 Integrate innovative technology tools and processes into the learning environment that enhance student engagement and learning.

Teachers come to MERIT knowing that they will be challenged to change their teaching practice by integrating technology that will enhance student engagement and learning. Teachers are asked to profile themselves regarding their comfort level in using technology before and after the Summer Institute. They are provided four categories: Early, Developing, Proficient, and Advanced (table 5).

Comfort Level Descriptions - Teacher Self-Assessed Comfort Level in Using Technology

Early	I am beginning to feel comfortable using technology. I use it mainly as a productivity tool (email, Internet browsing, word processing).
Developing	I successfully use technology for increased productivity (designing newsletters, keeping grades), and to enrich curriculum (research, lesson planning).
Proficient	I confidently use technology as a tool for research, lesson planning, multimedia presentations and/or simulations. I integrate technology into my work. I have an instructional web site. I use scanners, digital cameras, and mobile wireless technology where applicable.
Advanced	I'm prepared to develop new learning environments that use technology as flexible tools so that learning in my school/district has become more collaborative, interactive and customized. I work with my colleagues to use technology for assessment, curriculum application, differentiated instruction, and communication and collaboration.

Table 5. Before and after the MERIT Teacher Institute, teachers were asked to describe their comfort level in using technology as Early, Developing, Proficient, or Advanced. These are the definitions used to describe each of those comfort levels.

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In the pre Institute survey, only 21% of participants considered themselves advanced—prepared to develop new learning environments that use technology as flexible tools so that learning in my school/district has become more collaborative, interactive and customized. Post Summer Institute the percentages changed significantly with 48% considering themselves advanced. Between the two profiles—proficient and advanced—89% of the teachers rated themselves in those categories (fig. 4).

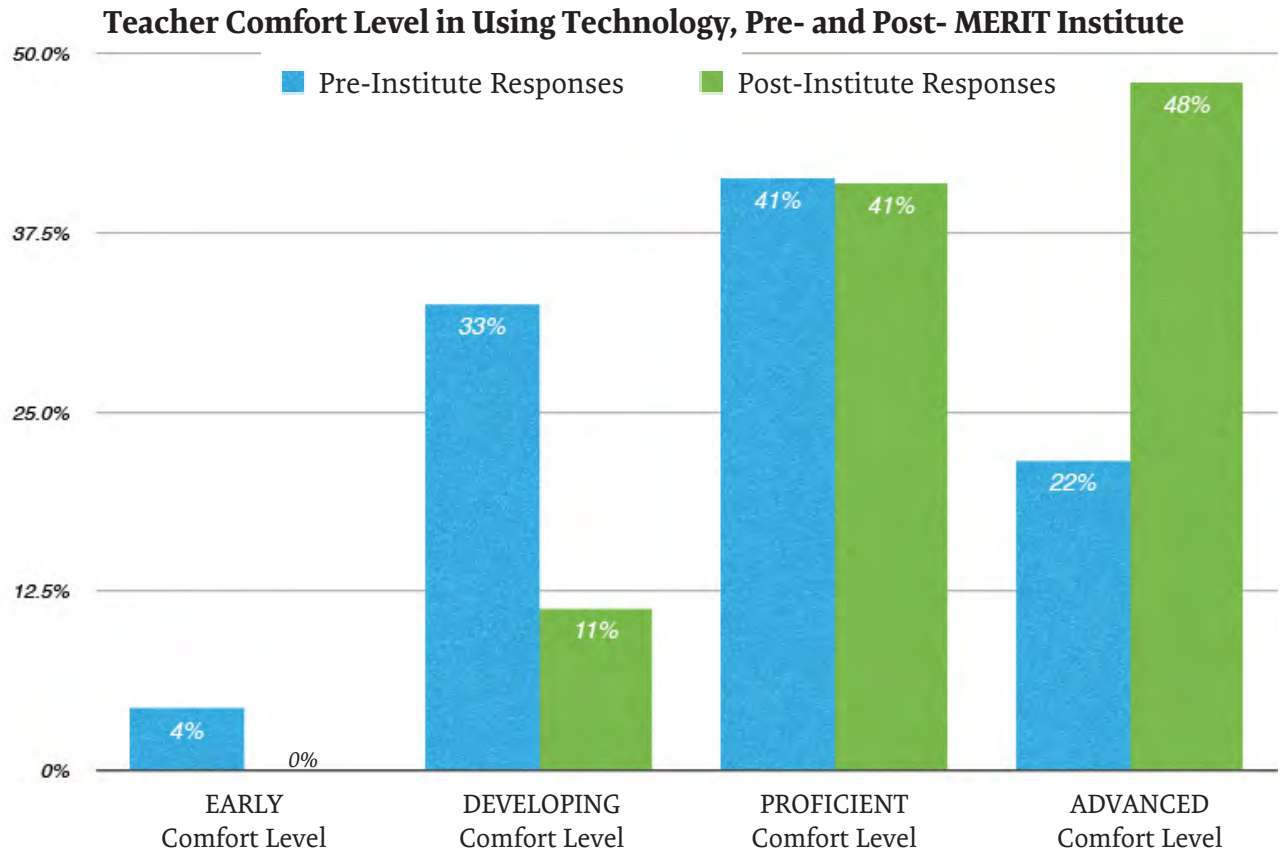


Fig. 4. Pre-Institute Responses show that the majority of teachers are in the Developing-Proficient comfort range using technology. After the MERIT Institute, however, most teachers significantly increased their comfort level using technology by describing themselves as Proficient or Advanced. See Table 5 on page 16 for Comfort Level Descriptions.

MERIT

3 Design effective and efficient technology-enriched, student-centered learning projects that improve learning outcomes.

One of the key strategies of MERIT is to have participants apply what they are learning immediately to develop lessons and projects that they will implement during the upcoming academic year. For some teachers, it will be a series of small projects or lesson plans started in the summer and developed to completion over the academic year. For others, they develop large projects that may take up a number of weeks of the year. This is left to the discretion of the participants since the main goal is to build their confidence level and ability to implement technology enriched curriculum.

During the summer institute, the participants worked in smaller groups organized by grade level—elementary, middle school, or high school. Here the teachers had a chance to develop their projects, get feedback from their peers, and selected projects were presented to the entire cohort. The following comments are representative of the experience for the group.

> *"I had to roll my project around in my head and bounce ideas off of people for many days. It was totally worth it because I'm very excited about my project and worked VERY hard. I feel good about it and now that I have a strong framework I can start working on the supporting stuff that goes with it such as hyperdocs and screencasts."*

> *"I think that coming with the idea of a project, and using the tools that we discovered here to augment, modify and redefine was extremely useful. It was helpful to meet with a small group of grade level collaborators to brainstorm and it was great practice to present."*

4 Develop assessment strategies for educational technology projects, teaching practices, and learning outcomes.

5 Evaluate the efficacy of teaching with innovative technologies

Teachers build and demonstrate the skills required for goals 4 and 5 throughout the program and especially once they are back in their classrooms. Teachers are better equipped to assess themselves at the end of the MERIT program in March 2015. Therefore, post program, participants will be asked to rate themselves on their ability to evaluate and assess the effectiveness of educational technology projects on learning outcomes. They will also be asked to rate their ability to think critically about how to use technology in the classroom. Results will be available in April 2015. We will provide these results if requested when they are available.

MERIT

After the Summer Institute –
Continuing Activites & Collaboration

The MERIT 2014 participants have completed the summer institute, and follow-on sessions are scheduled for this fall and winter. The participants are also expected to enroll in 2 units (24 hours) of additional KCI FASTtech classes to augment the MERIT program experience.

The MERIT program also encourages participants to collaborate with their cohort, as well as going back to their school sites and sharing with their peers. The participants were asked about their desire to hone their presentation skills and present to their peers, thus helping other teachers in their schools or districts to effectively combine content, technologies and teaching approaches. While not everyone felt comfortable presenting, the great majority of participants felt it is an important skill and how they can give back to their schools and districts.

> *"I think teachers presenting to teachers is a powerful tool. It is so great to hear that others have the same passion, struggles, and drive as I do. I think when we hear from each other it motivates us to want to do great things and gives us a resource when we need support."*

> *"Sharing ideas as a presenter seems like a vital part of 2014 education. Sharing what works and doesn't work is ultimately how we grow others and ourselves in the world of education! I would love to share/present in the future!"*

MERIT Program Effectiveness & Quality

The KCI actively seeks program feedback from participants in order to constantly improve programs. MERIT is no exception. After the Institute, teachers were asked a series of questions regarding program effectiveness and quality. They were provided a five-point rating scale – from strongly disagree to strongly agree (table 6).

MERIT Program Effectiveness and Quality

Category	Strongly Disagree	Disagree	Unsure/ Neutral	Agree	Strongly Agree
The institute helped me learn technology.	0.00%	0.00%	0.00%	22.73%	77.27%
The institute helped me learn how to teach with technology.	0.00%	0.00%	2.27%	22.73%	75.00%
The institute was well organized.	0.00%	2.27%	0.00%	38.64%	59.09%
The content was relevant to my particular instructional needs.	0.00%	0.00%	4.55%	31.82%	63.64%
The program assignments and projects were reasonable to achieve during the two-week institute.	0.00%	2.27%	2.27%	43.18%	52.27%
The instructional team was well prepared to lead instruction.	0.00%	0.00%	4.55%	25.00%	70.45%
The technical knowledge of the instructional team was excellent.	0.00%	0.00%	0.00%	9.09%	90.91%
The instructors' knowledge of how to teach with technology was high.	0.00%	0.00%	0.00%	18.18%	81.82%
The instructors consistently used active learning methods, such as allowing you time to talk, think, explore, and refine new practices.	0.00%	2.27%	4.55%	43.18%	50.00%

Table 6. This table shows the results of the Post-Institute survey taken by program participants. Overall, most participants agree or strongly agree that the Insttitute was helpful and had effective content and instruction.

FAME

The Faculty Academy for Mathematics Excellence (FAME) is a nine-month professional development program for middle school and high school mathematics teachers designed to increase student achievement in pre-algebra and algebra courses, reduce the achievement gap, and promote the use of technology to enhance the teaching and learning of mathematics. Teachers are recruited from Santa Clara county schools with significant numbers of English language learners (ELL) and low-income families to help their students be better prepared to take algebra in the eighth or ninth grade.

"FAME was such a great program. It was like finding a gem. Lots of people are looking for great professional development opportunities and FAME falls right in there with the GREAT ones."

~ FAME 2014 Participant

About FAME 2014

FAME is in its fifth year with the 2014 cohort, thanks to a generous grant from the Silicon Valley Community Foundation and support from private family foundations. The FAME instructional team has new leadership at the helm with Cristina Bustamante, who is both a FAME 2010 and MERIT 2012 graduate. The KCI continues to partner with the Santa Clara County Office of Education to update the curriculum and conduct the program.

The KCI has shifted the program's direction this year. The KCI is partnering closely with school districts to build stronger math teaching skills within districts and to support Common Core implementation. For FAME 2014, the KCI has partnered with four school districts based in San Jose, including Alum Rock, Franklin-McKinley, and Oak Grove. East Side Union High School district is also participating. Bringing together the middle and high school teachers is a strategy to improve the articulation of math teaching between middle school and high school (table 7).

Table 7. Number of Teachers from Targeted Partner Districts

District	# Teachers
Alum Rock Union Elementary	5
East Side Union High School	6
Franklin McKinley	5
Oak Grove	10
Other Districts	6
Total	**32**

The FAME curriculum is built on the new Common Core State Standards and is designed to deepen teacher participants' math knowledge, expand their repertoire of mathematics instruction strategies, and help them integrate technology into their teaching practice. Topics include how to use computer and Internet technologies (e.g., GeoGebra, spreadsheet software, and virtual manipulatives) to support the challenging math topics covered in the program. In the 2014-2015 academic year, FAME includes four follow-up sessions to support the teachers as they implement new math teaching strategies.

The FAME 2014 cohort is comprised of 32 teachers, primarily from the San Jose Districts, with high populations of students who are underrepresented in college math and science courses (table 8). During the Summer Institute, the participants learned new strategies to teach math, as well as exercised individual problem-solving abilities. An additional outcome of the Summer Institute included creating hands-on projects for students, the goal of which is to give students a better contextual understanding of how math is related to real-world and work-related issues.

Table 8. Number of FAME Teachers by County

Number of Teachers	County
28	Santa Clara
4	San Mateo
32	**Total**

FAME

FAME Goals 2014

The vision of the FAME teacher professional learning program is to transform teaching practices to increase student achievement in middle school and early high school pre-algebra and algebra courses in and Santa Clara counties so that students can to take college-track math classes in high school. FAME seeks to accomplish this vision through five goals.

1 To increase teachers' content knowledge and teaching skills in key pre-algebra and algebra concepts, such as proportional reasoning, linear relationships, functions and graphs, and problem solving

FAME assesses the impact of the summer institute on a teacher's mathematics content knowledge using a math content knowledge survey before and after the summer institute. Over five summer institute's (2010, 2011,2012, 2013, 2014), FAME participants have increased their math content knowledge. More importantly, those who scored below the median on the pre-test made the highest gains on the post-test. For the 2014 cohort, a mean gain of 2.1 points was achieved by those scoring below the median on the pre test. In terms of mastery, gains were made from the pre-to post-test in the number of participants who got a perfect score on each section of the test.

Goal 1 also addresses teaching skills, teacher beliefs and attitudes. Self-report surveys are used to assess the potential impact of the program on teachers' instructional practices. After the FAME 2014 Summer Institute, 100% of the survey respondents stated that they could use a variety of mathematics teaching approaches in a classroom setting, as opposed to 64% prior to the summer institute. When asked whether they can adapt their mathematics instruction based upon what students understand or do not understand, 78% answered affirmatively in the pre institute survey. Post institute, 100% answered either "agree" or "strongly agree" that they have this capability.

2 Promote and encourage the use of technology in instruction to support and enhance mathematics teaching and learning

This goal and its counterpart, Goal 3, are the heart of the FAME program. In the post-summer institute survey, teachers reported a greater level of confidence in using technology in math instruction. In the pre survey only 14% agreed with the statement and 57% were neutral. At the end of the Summer Institute, 93% were confident about using technology in math instruction.

3 Increase the use of technology for visualization and multiple representations of pre-algebra and algebra concepts

Goals 2 and 3 are tightly linked. Teacher-participants' use of technology in instruction and their use of technology for visualization of content are assessed using a pre and post-program, self-report survey. The data for the 2014 cohort indicates the teachers' intentions for increasing use of visualization and multiple representations of mathematics concepts.

In the post summer survey, respondents indicated a significant change in their knowledge of how to use virtual manipulatives, such as the National Library of Virtual Manipulatives (http://nlvm.usu.edu), from 35% pre institute to 93% post institute. Similarly, their knowledge of how to use spreadsheet software, like Microsoft Excel and Google Spreadsheets in math instruction jumped significantly from from 28% pre institute to 72% post institute. When introduced to graphing software like GeoGebra, the results were even more dramatic. Before the Summer Institute, 0% of the participants were confident about using dynamic mathematics software like GeoGebra. Post Institute, 78% felt they could implement it in the classroom.

One FAME participant wrote, *"All the resources available online are things that I have not seen before, and I thought I was already using technology to my best knowledge."*

Another stated, *"I had no idea how many wonderful resources were available, particularly those online!"*

4 Guide teachers to make connections between school mathematics, the California Mathematics Content Standards, the California Common Core State Standards, & the ELD standards

The Common Core State Standards for Mathematics and the corresponding Standards for Mathematical Practice are the heart of the FAME program. These standards emphasize project-based learning and problem solving. Based on the success of the 2013 cohort, this year's participants tackled a multi-part project—The International Space Station Design Project—over seven days to experience the reality of small group collaboration to solve a real-world challenge. The teacher-participants learned first-hand how to incorporate and complete Common Core lessons, activities, and projects into their classrooms.

The International Space Station Design Project meets three of four critical common core areas of Grade 7 mathematics: (1) Developing understanding of and applying proportional relationships; (2) Developing understanding of operations with rational numbers and working with expressions and linear equations; (3) Solving problems involving scale drawings and informal geometric constructions; (4) Working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume.

The purpose of the Common Core Mathematics standards is to develop students' ability to go beyond the "right answer" or rote procedural problem solving routines to be able to think critically and more deeply about multi-dimensional projects, creatively solve real-world type problems, collaborate on solutions, and communicate their results. The Standards for Mathematical Practice emphasizes all these skills in addition to perseverance in problem solving, modeling with mathematics, and using appropriate tools strategically.

FAME

5 Enable teachers to utilize effective mathematical instructional strategies to meet the needs of all students.

The post-summer survey asked respondents to rate their perception of their ability to use specific instructional strategies before participation in the summer institute and immediately after. For the item statement, "I can select effective teaching approaches to address common student misconceptions," the increase was significant. While the 2014 cohort was more confident in this area than cohorts in the past, with a 71% confidence level, post Institute, the confidence level jumped to 100%. For the item statement, "I can adapt my mathematics instruction based upon what students understand or do not understand," responses show a change from 78% pre Institute to 100% post Institute.

Further evidence of positive change was found in responses to the statement, "I can use a variety of mathematics teaching approaches in a classroom setting." The data shows a dramatic increase from 64% pre institute to 100% post institute.

FAME: Quality Professional Development

The FAME participants were asked to rate the FAME Summer Institute on a 1 to 5 scale (1 being the lowest and 5 being the highest) on a number of categories focused on the overall quality of the program (table 9). We are pleased to report that the participants ranked the program high in the five categories, which supports the value teachers find in the program.

FAME Program Effectiveness and Quality

Category	1 Strongly Disagree	2 Disagree	3 Unsure/ Neutral	4 Agree	5 Strongly Agree	Average Rating
The FAME Summer Institute was well organized.	0.00%	0.00%	0.00%	14.29%	85.71%	4.86
The presenters were well prepared.	0.00%	0.00%	0.00%	21.43%	78.57%	4.79
I found the content presented to be valuable to me.	0.00%	0.00%	7.14%	14.29%	78.57%	4.71
The FAME Summer Institute provided me with high quality professional development experiences.	0.00%	0.00%	0.00%	7.14%	92.86%	4.93
I would recommend the FAME Summer Institute to others.	0.00%	0.00%	7.14%	0.00%	92.86%	4.86

Table 9. Data collected in a survey after the FAME Summer Institute indicates that participants averaged a rating of agree or strongly-agree on each of the five surveyed categories. We are proud to show that, according to teacher participants, the FAME program is effective at providing high-quality professional development.

Tailored Professional Learning Programs for Schools & Districts

Meeting Specific Needs -
Based on the KCI's expertise in providing high quality professional learning programs, schools and districts are increasingly engaging the KCI to provide professional learning programs that are tailored to a school or district's specific needs.

Preparing Teachers -
The goal of these programs is to prepare teachers to implement 21st century technology skills into daily instructional practice through an intensive process of learning how to implement a variety of hardware and software tools, including free web 2.0 applications.

Supporting Schools & Districts -
These programs directly support schools and districts as they implement Common Core standards, and since these engagements are fee based, they provide revenue for the KCI as well.

2014: Tailoring Professional Learning Programs for Schools & Districts

After 12 years of refining the successful MERIT program, the KCI team has distilled MERIT's best practices and started working directly with school districts to provide Mini MERIT programs. Like the comprehensive MERIT program, Mini MERIT focuses on developing teachers' confidence and skill level by emphasizing collaboration, critical thinking, problem solving and creativity, all of which are supported by technology tools that increase teacher and student productivity and student engagement.

Each Mini MERIT is tailored to meet a district's particular needs and goals for its teachers and is funded by the school or district. The program runs just five days, half the number of days of MERIT, and is still able to achieve a high level of teacher transformation.

The KCI tested its Mini MERIT concept in 2012–2013 with the Loma Prieta, San Bruno Park, Union and Moreland school districts. This last summer, the KCI conducted five Mini MERIT programs for the Blach Intermediate School (Los Altos School District); Harker School; Moreland School District; Santa Cruz City School District; and Union School District. This was the second summer for Mini MERIT at Moreland and Union. Approximately 90 teachers participated in the summertime Mini MERITs.

Tailored

Supporting Schools and Districts

While teachers are eager to take their new and improved skills back to the classroom, district administrators also understand how the Mini MERIT program supports district efforts to implement the new Common Core State Standards.

Santa Cruz City Schools Superintendent, Kris Monroe, said:

> *"Santa Cruz City Schools is fortunate to have had the opportunity to benefit from a Mini MERIT Academy in our district. The 19 teachers who participated left inspired with tools to better engage students and support their implementation of Common Core Standards. Further, the connections the teachers made with one another across schools, grade spans and disciplines is enriching for our greater learning community."*

Meeting Specific Needs

At the end of each program, participants are asked to complete a survey regarding Mini MERIT and its effectiveness. Eighty-two teachers answered a series of questions using a scale of 1 to 5, with 1 being "very dissatisfied" and 5 being "very satisfied." High levels of satisfaction were reported across the five programs.

- Teachers were asked whether they learned technologies that they could easily deploy in their classrooms and 98% of the respondents gave favorable responses.
- When asked if the program helped them learn how to teach with technology, 91% affirmed they are more prepared to teach using technology.
- The hallmark of a professional development program is the participants agree that it met their professional learning needs. The KCI is proud to report 93% of Mini MERIT participants were satisfied or very satisfied with the program
- 93 percent also reported that the resources made available to them in the program are useful.

98% **of teachers said they learned technologies they could easily deploy in their classrooms**

91% **said they were more prepared to teach using technology**

The KCI will continue to offer mini merits to schools and districts during the 2014–2015 academic year and next summer, with a goal to double the number of programs provided. One of the benefits of the program is that it continues to offer immersive professional learning, but requires less time than the standard 10-day merit program.

Blach intermediate school principal Sandra McGonagle said:

> *"I feel fortunate to have built a solid relationship with the KCI. I know that our professional development will be well planned, be of high quality, and, most importantly, inspire and encourage teachers to take risks, try new tools, put student needs first, and rethink the way teaching has traditionally looked."*

Other KCI Programs

FASTtech Classes

FASTtech classes are Foothill College courses designed and developed by the KCI to meet the technology training needs of the general local community, but more specifically those of elementary, middle, secondary, and community college educators. Educators earn Continuing Education Units (CEUs), which can boost their salary schedule. There were over 1,100 enrollments in KCI FASTtech courses throughout the 2013–14 academic year.

FASTtech classes feature a series of short, affordable, and conveniently timed courses for K-14 educators that address the California Technology Proficiencies and provide teachers with an opportunity to discover ways to incorporate technology into their curriculum. Course topics include Google applications, Adobe applications, website design, ePortfolios, 21st-century teaching and learning, and general integration strategies. As schools and districts adopt tablets for classroom instruction, the KCI's iPad and Chrome Institutes have remained popular. FASTtech classes provide the foundational building blocks for Tailored Programs that the KCI conducts for schools and districts.

Community Education Program

Parents and students are looking for enrichment classes that have some academic value to make up for the loss of many after school enrichment programs. As a result, the KCI has expanded its offerings of teen oriented community education. We continue to experiment with new offerings.

More than 200 teens participated in KCI/Foothill-De Anza community education extended year classes this last summer. Eleven classes were offered in subjects including coding, game design and development, and multimedia skills. These STEM-based technology classes were held in partnership with Cupertino Union School District. For four weeks, students attended daily classes to learn how to design multimedia presentations and code their own video games using object-oriented programming.

Teens were engaged in the development of clear and compelling communication using a range of multimedia, design and production skills. They became movie directors, art directors, coding directors, actors, camera and audio technicians, and editors. They created posters, documentary podcasts and cover spreads that were produced and delivered as PowerPoint presentations. The presentations were converted to video and shared on a variety of social media platforms.

Many of the students who participated in the programming classes were experiencing their first introduction to computer science. They coded the games and digital projects using curriculum and resources developed by MIT and Carnegie Mellon departments of computer science. Problem solving and computational thinking were a part of the challenging activities. In total 350 teens participated in KCI community education classes during the 2013 - 2014 academic year.

Revenue from this effort helps support KCI staffing.

New Program Development

To stay innovative and current with technology as well as teaching trends, the KCI must continue to develop new programs. This year's development focuses on two new programs:

1. **Blended FAME**
2. **Design Thinking**

Blended FAME

Blended learning, often called hybrid learning, combines the traditional classroom experience with online instruction. Many MERIT and FAME graduates are experimenting with blended learning as they try flipping their classrooms by assigning students online content for homework. Students then learn at their own pace and class time is reserved for answering questions, engaging in discussions, coaching and hands-on project work.

KCI leaders are confident that a key strategy to help teachers embrace and gain confidence with blended learning is to have them experience it. Hence, the KCI has kicked off a program development effort to transform the FAME program from its 100-percent face-to-face format to a blended format, in which part of the content is delivered online. The goal is to create a program that continues to promote collaborative work and is transformative in nature, but allows participants to review and learn content via online components.

To prepare for the program development effort, the KCI carefully documented the FAME 2014 Summer Institute. Besides videotaping all the direct instruction and some of the collaborative work, the KCI consulted with a math curriculum expert to document the program. The KCI has also engaged a Foothill math instructor, who is also an expert in creating online courses, to lead the development effort. FAME leaders are also determining what content is best delivered online and what content and activities should remain in a face-to-face context. The KCI expects to test a beta version of the blended FAME program by Summer 2015.

Design Thinking

The KCI STEAM (science, technology, engineering, arts and math) Design Thinking program incorporates design thinking principles and technology, including 3-D printing. Most K-12 schools offer students STEAM explorations only in the form of periodic field trips to museums, which have little long term impact. More intensive Hands-on STEAM explorations and Design Thinking skills (a problem solving strategy developed by the Stanford Product Design Department and formalized by the Stanford d.school) have been shown to enhance students' English, math, and thinking skills, motivation to learn, and can contribute to a positive school environment. Research shows that innovators spend 50% more time on discovery activities (questioning, observing, associating, experimenting) than do individuals with no track record for innovation. Tinkering and design thinking projects integrate these discovery activities and encourage the development of these innovation skills.

Teachers who are confident in their own creativity are essential to fostering student creativity and innovation. Most teachers have not been exposed to, nor see how, Design Thinking and STEAM projects fit into their curriculum. The KCI STEAM Design Thinking PD program will aid teachers in creating student learning experiences that develop technology skills and hands-on building skills. It will support teachers by engaging them with a tool kit of innovative teaching practices, CAD programming experience, basic circuitry, hands-on explorations (to take back to their classrooms), and resources. Our goal is to launch this 3-day program in early 2015 in partnership with The Tech Museum in San Jose.

Spotlight on KCI

Besides offering excellent programs for educators, school districts, and community members, KCI is also a leader in recognizing innovative teachers. We also have our own staff who are making great strides in improving tech education. Lastly, the careful operation of the KCI helps us to sustain our excellent programs.

1. **Recognition of Innovative Teachers**
2. **KCI Leadership Highlights**
3. **KCI Operations**

Recognition of Innovative Teachers

Teachers Have Broad Influence **- One of the goals of KCI programs is to encourage teacher participants to broaden their influence beyond their immediate classrooms and to have a wider impact on their schools, districts, and beyond.**

Microsoft/KCI 2014 Innovation Award
Adam Randall, Gabriela Rios, & Kennedy-Austin Team

The KCI honors the outstanding achievements of K–12 teachers and their students who are using technology to improve the quality of education in Silicon Valley. New this year, the KCI partnered with Microsoft to recognize the achievements of forward-thinking teachers at the annual Microsoft/KCI Innovation Award reception, which was held at the Microsoft Corporation campus in Mountain View Feb. 27. More than 100 guests attended the reception, which featured remarks from former U.S. Undersecretary of Education Martha Kanter, Ed.D., who is currently the distinguished visiting professor of higher education at New York University and former chancellor of the Foothill-De Anza Community College District.

Educators from across the Bay Area were invited to submit an innovative teacher-student collaborative project that fully integrated technology. Awards were based on the number of students and educators that each project served, the project's potential significance to Silicon Valley, and the project's creativity and ease of use. For 2014, the first-place entry received a $5,000 cash award; second-place finalist, $3,000; and third-place finalist, $1,000. The projects submitted this year were truly innovative, and we appreciate that Microsoft recognizes and supports the valuable work teachers are doing to make education more relevant to capture the interest and the creativity of students.

The grand prize was awarded to third-grade teacher **Adam Randall** (a 2013 MERIT teacher) of Vintage Hills Elementary School (Pleasanton School District) in Pleasanton for the Make Your Mark project. "This project is all about my students making a positive mark on the world. The class started small, taking part in International Dot Day and pledging to add kindness into the world. When they realized that their efforts could have an impact, my students set their sights on something bigger," Randall said. The youngsters then used computers and iPads to make videos to spread awareness about the atrocities happening in the world's rain forests and oceans.

In addition to participating in a read-athon that raised nearly $2,800 to save the rainforest, the students used iPads with Haiku Deck to make promises of what they would do for International Dot Day. They also used iPads to film and edit their rainforest and ocean conservation newscasts.

Second-place honors were awarded to grades 4–8 teacher **Gabriela Rios** of Crittenden Middle School (Mountain View Whisman School District) in Mountain View for the Understanding Your School Project. The goal of the project was to give students an opportunity to practice Spanish and expand their knowledge of the language while engaging in a meaningful activity. To achieve this goal, students created videos in Spanish to help parents navigate teachers' websites, find Internet access around the school and contact teachers. "The project uses a real-life situation that is meaningful to their own families. This makes a big difference in their motivation, creativity and effort, since they know what they are creating is actually going to be used," Rios said.

The third-place award was presented to grades 7–8 teachers **Catherine Kennedy** (MERIT 2012) and **Jennifer Austin** of Dartmouth Middle School (Union School District) in San Jose for the Invention Proposal Project. Their students brainstormed, created and presented ideas for inventions that could improve their lives or the lives of others. Over the span of four months, students worked collaboratively and online, practiced grade-level language arts content, and honed skills in technology and collaboration.

[Photo of Winners on Page 40]

Recognition of Innovative Teachers

Innovation Award Winners

Congratulations to the winners of the Microsoft/KCI 2014 Innovation Award: Adam Randall (Vintage Hills Elementary School/Pleasanton), Gabriela Rios (Crittenden Middle School/Mountain View), and the team of Catherine Kennedy and Jennifer Austin (Dartmouth Middle School/San Jose).

Number of Educators & Students Served

The table below shows the number of educators who participated in the primary KCI programs in 2013-14 and the number of students these educators could affect in the 2014-15 school year (table 10).

Table 10. Estimated Number of Students Affected by KCI Teacher Participants

Program	Enrollments or participants accepted into program	Estimated[1] number of students who will be taught by KCI teacher participants in 2012-13
MERIT	46	4,025
FAME	32	4,800
Custom Programs	406	40,600
FASTtech Classes[2]	1,122	N/A
Totals	†	49,425

[1]Total estimates for students in U.S. schools who are affected by a program participant-teacher are based on the average number of students taught per teacher by grade levels per year: Elementary K-5 (25), Middle school 6-8 (150), High school (150).
[2]Over 1,100 enrollments in FASTtech classes. Estimates of students affected by FASTtech classes are unknown because †he number of teachers and the grade levels taught are not tracked.

California Public School Districts Represented By Selected Program Participants

The following table (table 11) shows the California public school districts organized by county that were represented by teachers in the MERIT and FAME programs. Three MERIT teachers work in private schools, so the total number shown of public school teachers is 43. All FAME participants are public school teachers. Additional data on student demographics is presented to show the percentages of underserved students in the district. Districts with 40 percent or more of low-income students are noted in bold (table 11).

Table 11. CA public school districts represented in MERIT & FAME programs, sorted by county

County	MERIT 2014 Teachers	FAME 2014 Teachers	Percentage of reported English Learners / students of color / low-income families[2]
SANTA CLARA COUNTY			
Alum Rock Union	**2**	**5**	**48% / 86% / 85%**
Campbell Union Elementary	**1**	**1**	**33% / 55% / 49%**
Cupertino Union	3	-	12% / 7% / 5%
East Side Union High	**-**	**6**	**20% / 63% / 53%**
Franklin McKinley	**-**	**5**	**53% / 67% / 80%**
Fremont Union High	2		9% / 24% / 15%
Lakeside Joint Union	1		15% / 23% / 7%
Loma Prieta Joint Union	2	-	3% / 9% / 3%
Los Altos Elementary	2	-	12% / 9% / 5%
Los Gatos Union	1	-	2% / 9% / 4%
Mountain View-Los Altos	1	1	9% / 30% / 19%
Mountain View Whisman	**1**	**-**	**36% / 51% / 42%**
Oak Grove Elementary	**-**	**10**	**28% / 58% / 44%**
Palo Alto Unified	4	-	11% / 15% / 9%
Union Elementary	5	-	12% / 20% / 14%
SAN MATEO COUNTY			
Burlingame	1	1	22% / 20% / 13%
Millbrae Elementary	2	1	25% / 31% / 20%
Redwood City Elementary	**1**	**1**	**49% / 77% / 56%**
Sequoia Union High	**4**	**-**	**18% / 56% / 40%**
OTHER COUNTIES & PRIVATE SCHOOLS			
Alameda	**3**	**-**	**22% / 52% / 45%**
Diocese of Oakland (private)	1	-	NA
Diocese of San Jose (private)	1	-	NA
Los Angeles	**1**	**-**	**24% / 76% / 68%**
Napa	**1**	**-**	**23% / 63% / 46%**
Nueva School (private)	1	-	NA
San Francisco Unified	**-**	**1**	**28% / 44% / 61%**
Santa Cruz	**1**	**-**	**29% / 58% / 55%**
Solano	**1**	**-**	**14% / 62% / 52%**
Sonoma	**3**	**-**	**23% / 46% / 46%**
TOTALS	**46**	**32**	**N/A**

[2](Source: Ed-Data, 2013-14)

KCI Leadership Highlights

Gay Krause Honored as the 13th Senate District Woman of the Year

Gay Krause, founder and executive director of the KCI, is the 13th Senate District's Woman of the Year for 2014 for Santa Clara County. Senator Jerry Hill presented Gay Krause certificates naming her the 13th Senate District's Woman of the Year, on April 16th, 2014. Woman of the Year recognition is coordinated by the California Women's Legislative Caucus, which encourages legislators to honor outstanding women during Women's History Month.

[Continued Next Page...]

Gay Krause Honored [continued...]

Gay was recognized for her long term contributions to education and the community. She is a former elementary and middle school principal, and she established the KCI in 1998 to provide K-14 education with professional development resources, which have grown every year. Senator Hill offered high praise to Gay. In naming her the 13th Senate District's Woman of the Year for 2014, he commended each for her extraordinary vision and commitment to our community.

In presenting Gay with her award, Senator Hill spoke of the lasting influence of her thought leadership and her commitment to innovation in education. "What is more important," he asked, "not just for this generation and the next generation, but for the generations we will never know who will benefit thanks to the work you are doing?"

Text from the Certificate of Recognition: In appreciation of your unparalleled leadership of the Krause Center for Innovation at Foothill College, your decades-long career in K-12 education, and your unstinting efforts on behalf of community organizations, I am proud to name you the 13th Senate District's Woman of the Year in Santa Clara County. Thank you for your deep commitment to our community and your dedication to improving learning outcomes through the use of innovative technology. You are helping to make Silicon Valley an even better place to live. Best wishes for your continued success!

KCI Operations

KCI Develops Five Year Growth Plan

The KCI is excited to announce a new initiative to greatly expand its statewide role in helping educators provide superior learning environments for our children. The KCI, in alliance with Foothill College, will develop a professional learning infrastructure for California educators that will offer ongoing skill enhancement in educational technology; science, technology, engineering and mathematics (STEM) content; and proven transformative pedagogical practices. The motivation behind the expansion is simple.

[Continued Next Page...]

KCI Developing Five Year Business Plan [continued...]

Roughly half of California's K–12 students remain in need, both academically and economically. The good news is there are exciting new efforts underway to address this critical challenge, such as the state's adoption of Common Core standards and a focus on enhancing learning outcomes, not only in the traditional core subjects but also in 21st century learning and innovation skills. These skills include critical thinking, collaboration, creativity and communication.

To ensure the success of these bold new educational initiatives, teachers will require a professional learning (PL) support system that enables them to effectively foster meaningful change in their classrooms. The KCI and Foothill College are in the unique position to implement such a system. Our plan is to build an affiliation of regional PL providers trained by KCI, leveraging the California Community College system and collaborating with local county offices of education. Working with community colleges is a logical partnership: one of their core missions is workforce development, and they have a contract education infrastructure. County offices of education can provide training and curriculum development support, as well as help increase awareness at the K–12 level.

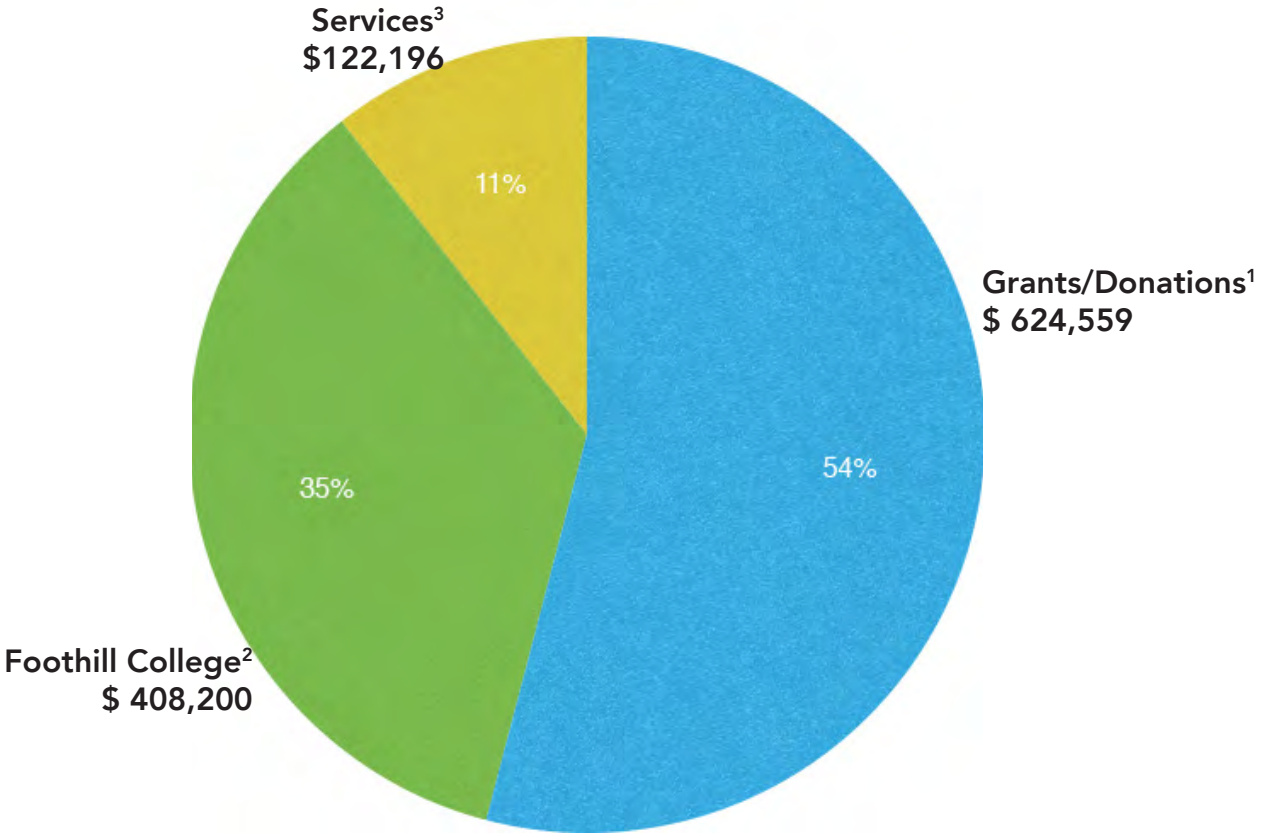
Goals for the plan include improving learning outcomes for the more than three million at-need students in our state. When the affiliate network is fully operational, we will be able to train more than 35,000 teachers annually. The next step is to secure funding to underwrite the launch. The seed capital necessary is a modest $2.5 million.

KCI Operations

KCI Financials

Philanthropic contributions account for 54% of the KCI's funding, with 35% coming from Foothill College, primarily in fixed facility support, hardware, software, and two staff positions. In 2013-14 the revenue from KCI services to schools and districts and from Community Education fee-based classes accounts for 11% in revenue. The two charts below outline the KCI's revenue and expenses.

KCI Funding 2013-2014: September 2013 – August 2014
Total: $1,154,955

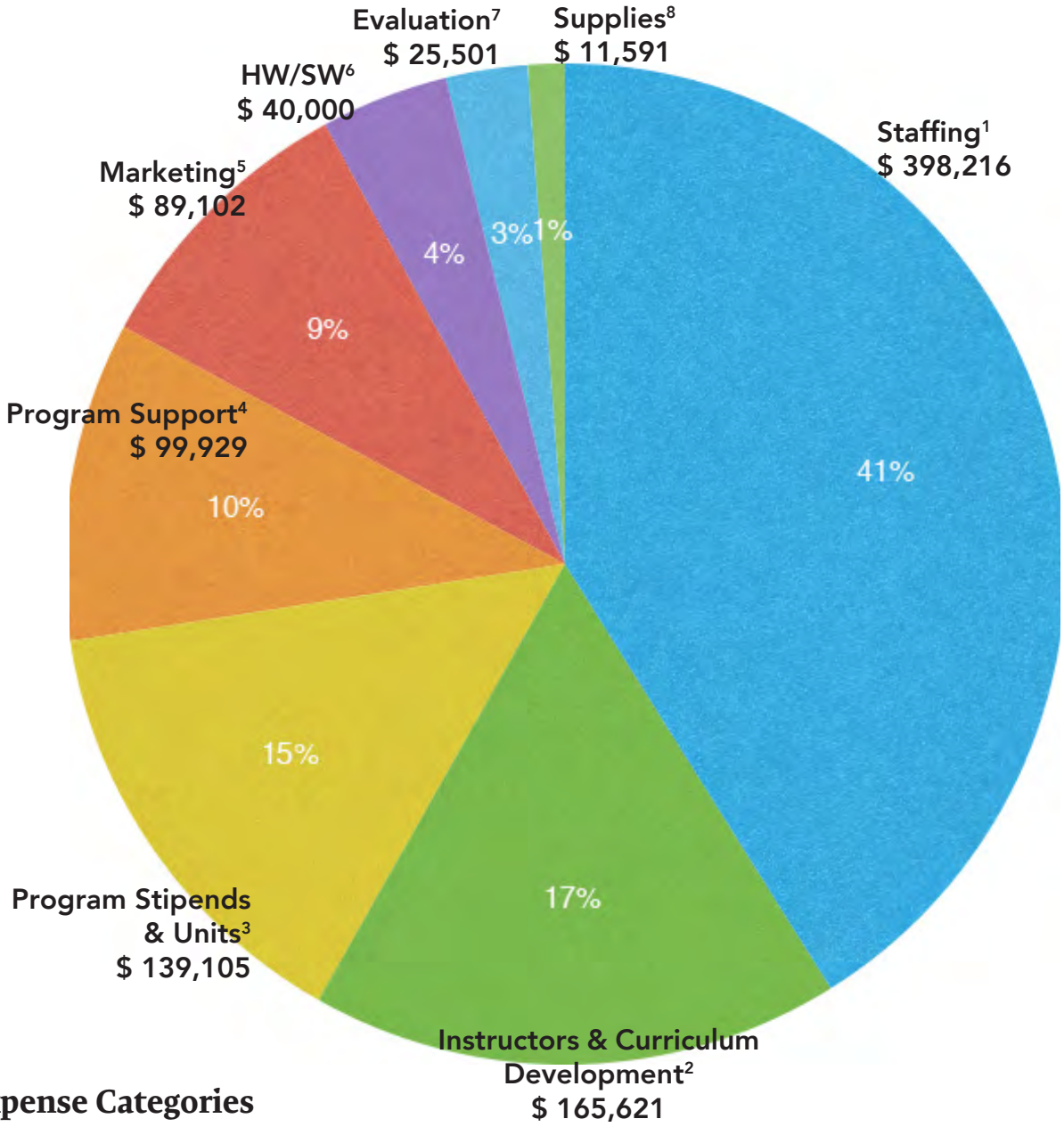


Sources

1. Grants are from foundations, including family foundations, which have reporting requirements. Donations do not have reporting requirements
2. Funding from Foothill College: 2 staff positions, building maintenance, supplies budget, lottery budget for software, Measure C hardware upgrades, and state-supported instructor pay for teaching FASTtech classes.
   a. It is important to note that the KCI is not just an organization—it is a facility that needs to be staffed and maintained for the college. Part of the $408, 200 in college funding goes to support the building maintenance, as well as supplies and staffing to keep the classrooms and labs open for Foothill College faculty and students.
3. Revenue from KCI services: tailored PD programs and training for schools and districts.

Note: Additional funds are held in the KCI endowment account with the Foothill De Anza Foundation.

KCI Expenses: September 2013 – August 2014
Total: $969,063



Expense Categories

1. Staffing includes 2 full time positions supported by Foothill College ($104,112) with the remainder ($294,104) for full and part time positions covered by grant and donor funding.
2. Instructor pay, including curriculum development, for all adjunct KCI faculty involved in MERIT, FAME, custom programs, and FASTtech classes.
3. Program stipends paid to MERIT and FAME participants, as well as cost for continuing education units (CEUs) that program participants receive as part of the program.
4. Program support for the MERIT and FAME programs includes supplies, follow-up sessions, tech tools for participants, food, student interns, and general administrative support.
5. KCI marketing and development activities: includes the production and distribution of all KCI communications, the development and maintenance of the KCI Website, and all grant proposal development work.
6. Hardware and Software upgrades for the KCI classrooms and multimedia lab and purchase of Mondo Pad, 3D printer and large screen for classrooms.
7. Program evaluation is conducted by third parties for the MERIT and FAME programs.
8. Supplies and materials.

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KRAUSE CENTER for INNOVATION

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