

CRDG

YEAR IN REVIEW 2011



Our Mission

The Curriculum Research & Development Group (CRDG), with its associated Laboratory School, is an organized research unit in the College of Education at the University of Hawai'i at Mānoa that contributes to the body of professional knowledge and practice in teaching and learning, curriculum development, program dissemination and implementation, evaluation and assessment, and school improvement. CRDG conducts research and creates, evaluates, disseminates, and supports educational programs that serve students, teachers, parents, and other educators in grades pre-K–20.

CRDG, a learner-centered community of educators—recognized locally, nationally, and globally for quality research, design, and curricula—that inspires dynamic teaching and learning.

Director's Message



Donald B. Young
Director, CRDG
Professor of Education

Aloha from the Curriculum Research & Development Group (CRDG) and the University Laboratory School (ULS). We are pleased to present the 2011 Year in Review, which provides a glimpse of CRDG's rich and varied work. We are especially pleased to highlight the many awards and recognitions received by our outstanding faculty and staff this year for the excellent work they are doing.

No one will be surprised to learn that the past few years have been challenging and prompted a great deal of introspection. Along with other organizations, institutions, and communities, we strived to work through the difficult times and to come out of those experiences stronger and better able to meet our commitment to improving education. It was through that introspective process that we reaffirmed our roots and consciously returned to our founding principles as a guideline for our current and future work—work that is grounded in both the practical realities of a real school environment and the rigorous environment of a research university. This year we are extremely pleased to present a story of dedication as we continue to work with our community—locally, nationally, and internationally—to affect positive change in education. In this report, you will read about major research projects, the development of new curricula and professional development programs, and ways our programs are supporting the transition to a digital world. You will also read about awards for leadership, scholarship, innovation, transformation, and lifetime achievement that our faculty and staff received this year in recognition of that work.

In the words of Aristotle, "We are what we repeatedly do. Excellence, therefore, is not an act, but a habit." CRDG, in collaboration with the University Laboratory School (ULS) and with our many partners within the education community and the university, is proud to be continuing its tradition of excellence in the work that we do.

A handwritten signature in black ink that reads "Donald B. Young". The signature is written in a cursive style.

Curriculum Research & Development Group

While CRDG and the University Laboratory School's roots go back more than a hundred years, the research partnership in its current form dates to 1966 when CRDG's founding director, Arthur R. King, Jr., was given the charge of creating a center for curriculum research and development. This was the beginning of the research partnership that has allowed CRDG and ULS to influence change in curriculum, instruction, assessment, and school systems by creating programs



and practices that result in improved student learning. CRDG assembles teams of academic scholars, teachers, design specialists, evaluators, and others to create instructional programs and professional development services that improve learning, teaching, and assessment. The collaborative nature of the work means that CRDG faculty are continually reaching out and forming new partnerships with researchers both in education and in the various disciplines, with individual schools as well as departments of education in Hawai'i and elsewhere, with community organizations and educational service providers, and with public and private funding agencies.



CRDG's work is focused on these five interrelated fields of educational endeavor, each of which addresses a central issue facing education in Hawai'i, on the US mainland, in American overseas schools, and in other nations.

- * Science, Technology, Engineering, and Mathematics (STEM) Education
- * Hawai'i, Asia, and the Pacific
- * Serving Diverse Learners
- * Educational Technology Development
- * Designing Educational Systems

CRDG concerns itself with the P-20 education continuum, including those who receive and those who deliver educational programs and services. While CRDG faculty are concerned with and address current needs, their primary focus is on creating innovations that by their very nature are intended to go beyond current practice to investigating and creating quality programs and materials for the future.



Our Roots

1895 A teacher training department is formed at Honolulu High School, located in Princess Ruth's former mansion (now Central Intermediate School).

1896 The teacher training department moves to Victoria and Young Streets and is renamed Honolulu Normal and Training School.

1905 After annexation, Hawai'i becomes a US territory. Honolulu Normal and Training School is renamed Territorial Normal and Training School and is moved to Lunalilo and Quarry streets.

1921 The school moves to a new 15-acre site (once a pig farm) adjoining the University of Hawai'i at Mānoa. The university's Department of Secondary Education becomes the School of Education.

1930 Benjamin Wist (later dean of Teachers College) becomes the principal of the school.

1931 The legislature transfers the Territorial Normal and Training School to the School of Education. The School of Education is renamed Teachers College.

1939–1941 An elementary school (University Elementary School) is built on Metcalf Street as part of Teachers College. Construction begins on Castle Memorial Hall, a training center for kindergarten and nursery school teachers.

1941–1945 Punahou School, displaced by the military occupying its campus, moves into Castle Memorial Hall and other buildings, but Teachers College continues to operate.

1943 University High School Building 1 on the Metcalf Street side of Teachers College is completed as an intermediate school.

1948 University High School Building 2 is constructed adjacent to Building 1. The schools now offer a complete K–12 curriculum. Hubert Everly (later dean of the College of Education) becomes the principal.

1959 Teachers College becomes the College of Education, and Hawai'i becomes the fiftieth state.

1966 The schools become part of a new entity, the Hawai'i Curriculum Center. This is a joint operation of the Hawai'i Department of Education and the University of Hawai'i to develop curriculum programs and materials for schools.

1969 The Hawai'i Curriculum Center is phased out and the University Laboratory School (ULS) comes under a new College of Education unit known as the Curriculum Research & Development Group (CRDG).

1996 CRDG, along with other research units, reorganizes under the UH Office of the Senior Vice President for Research.

2000 CRDG merges with the College of Education. ULS applies for charter school status.

2001 ULS becomes a charter school. CRDG continues to operate the school as a laboratory for curriculum R & D.

Research Begins to Fill in Internet Safety Picture



Thanh Truc Nguyen at the FBI Citizen's Academy training

Wrapping up a two-year study entitled *Multimedia Juvenile Victimization*, CRDG's Thanh Truc Nguyen is now able to use the data from that project to get at the issues of Internet safety and digital citizenship in a variety of ways. While disseminating the data in local, national, and international forums, she is also busy using them to inform her teaching and research.

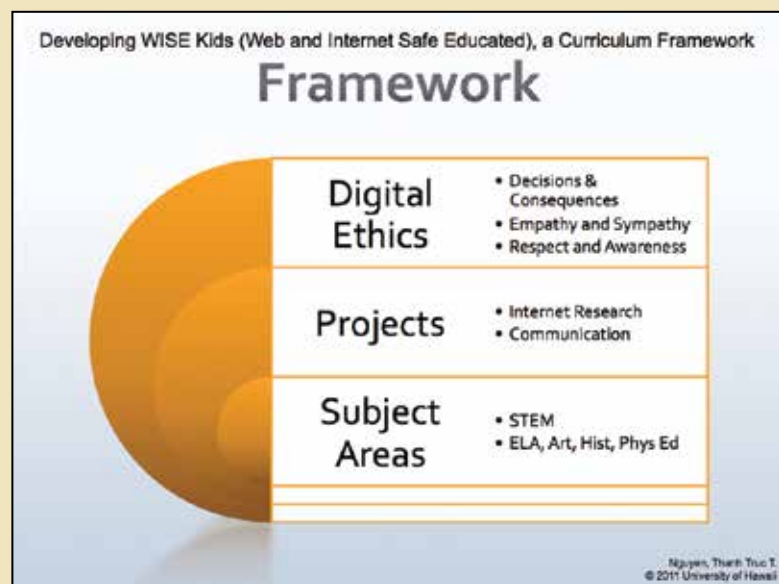
Findings from the study, which was funded by the US Department of Justice, Office of Juvenile Justice and Delinquency Prevention, have resulted in a focus on the idea of a digital citizen—someone who practices and models safe, secure, and ethical use of digital resources—and on nine themes of digital citizenship—access, commerce, communication, literacy, etiquette, law, rights and responsibilities, health and wellness, and security.

In addition to presenting her findings at local, national, and international conferences,

Nguyen was interviewed by the *Honolulu Star Advertiser* for a feature article on sexting and was invited to testify before the Hawai'i state legislature on the issue of cybercrime. She is also incorporating her findings into the

digital citizenship curriculum she is creating, Developing W.I.S.E. (Web and Internet Safe Educated) Kids. The data show that the issue of Internet safety is becoming problematic at the middle school level, where ubiquitous technology is intersecting with adolescents' natural tendency to push boundaries as they form individual identities and become aware of the opposite sex. Nguyen and her team are looking at ways to address this trend that encourage understanding and self-reflection and discourage the perpetuation of misperceptions and quashing of uncomfortable feelings. This approach is being used in programs for students and parents, and workshops for parents are becoming more popular as word gets out of their availability. Nguyen and her team conducted two workshops this year: "Cyberbullying, Sexting, Piracy, and Impersonation" in June 2011 and "Updating Your School AUP" in September 2011.

Dialog among the students was also encouraged with an essay competition that grew out of a series of short answers students had provided as part of the formal research. The contest winners had their essays published in *The Voices of the Youth (Nā Leo o nā 'Ōpio): Our Online Safety* (see p. 23).



Networked Classrooms Supporting Middle School Mathematics on Kaua'i

In partnership with the Kaua'i Economic Development Board, the Hawai'i Department of Education, and Texas Instruments (TI), CRDG's Judy Olson, Melfried Olson, and Hannah Slovin are extending their research from the Formative Assessment in Networked Classrooms (FANC) project to mathematics classrooms in middle schools on Kaua'i. The Kaua'i Economic Development Board has used federal STEM funds to purchase equipment for setting up networked classrooms and, in collaboration with TI, has provided funding for professional development in two of Kaua'i's three middle schools. Summer professional development for Chiefess Kamakahelei Middle School conducted by the CRDG team helped teachers get ready to start the school year, and follow-up sessions provided support for teachers to continue to grow and support each other. Waimea Canyon Middle School teachers observed the successful implementation of TI-Navigator for formative assessment at Chiefess and subsequently were provided technology equipment and professional development in the same manner. As students from the middle schools move on to high school, they will be coming with experiences using graphing calculators in a technology connected mathematics classroom environment.

Building Instructional Supports for All Learners

In collaboration with faculty from the University of Hawai'i College of Education's Department of Special Education, CRDG's Hannah Slovin and Fay Zenigami are examining CRDG-developed mathematics curricula for elementary and middle school and defining ways in which teachers can use them to meet the needs of students who are struggling to learn mathematics. Recognizing that there is a need for more information about effective, evidence-based strategies for the teaching and learning of mathematics for at-risk students and struggling students, the project's focus is on collaboratively examining the pedagogical practices within the CRDG mathematics curricula that address the needs of those students. The team developed an observation protocol based on Universal Design for Learning (UDL) and Response to Intervention (RTI) frameworks and has completed observations for grades 1, 2, 3, and 6. The resulting data will help teachers identify and define ways in which their existing materials can be used to meet the needs of these students in their classes. The project will continue in 2012 with a case study that will examine more closely the ways in which instructional strategies in the Reshaping Mathematics for Understanding (RMU) and Measure Up (MU) programs provide supports and/or create challenges for struggling students and students receiving special education services.

Online Delivery Planned for Marine Science Curriculum



Together with the Hawai'i Sea Grant College Program and the College of Education's Distance Course Design Consulting (DCDC) Group, CRDG is developing a new, modular, online marine science curriculum, *Exploring Our Fluid Earth* (EOFE) in conjunction with the modular professional development program, *Teaching Science as Inquiry* (see p. 13). The project is funded by NOAA Pacific Services Center and will feature a new full-year course covering physical, chemical, biological, and ecological science, all in a marine setting. Although designed as a stand-alone course in marine science, the modular structure of EOFE allows teachers to add a marine science component to physics, chemistry, or biology classes.

An added benefit of the online design for teachers is the ability to create an online learning community that will allow direct access to teacher resources as well as interaction with other site users. The EOFE platform promotes the discussion of new ideas and existing EOFE materials as well as the sharing of teacher-created resources through a unique content management system that prompts users to "stay and discuss" or "move to the right place." Teachers can rate and write reviews of EOFE materials in addition to having in-depth discussions and sharing in the teacher forum. A variety of special features will add real-life connections in focus areas such as scientific habits of mind, history of science, traditional ways of knowing, and literacy. In addition, teacher resources for activities and question sets provide background information as well as classroom management tips and answers to questions.

Providing Training for Adults with Disabilities

A new initiative to help individuals with disabilities prepare for and secure meaningful jobs that match their personal goals, interests, and talents is the latest project from the Archimedes Hawai'i project team. The Technology for Untapped Talent (TUT) project takes the team, led by Neil Scott, back to their roots in providing technology-based solutions to the challenges faced by individuals with disabilities. Beginning with the Invention Factory project that gave students hands-on experiences in electronics, engineering, and technology as they invented or modified toys and devices for use by children with disabilities, the next step was to move into teacher professional development with the Makery as a way to reach greater numbers of students. The Makery used computer numerically controlled (CNC) machines to prepare students for careers in high-intellectual-value industries based on STEM disciplines.

Funded by the Hawai'i Department of Human Services, TUT brings the team full circle as they use their experience and knowledge to work directly with people with disabilities to create individual paths to employment in STEM fields through a set of advanced skills that allow them to use computers to design and make real products.



Teachers' Circles Support Mathematical Thinking

Based on an idea that started at the American Institute of Mathematics (AIM) in 2006 and with its roots in the National Science Foundation-funded GK-12 SUPER-M project, Math Teachers' Circle of Hawai'i (MaTCH) was launched this year with a four-day event at the Bishop Museum. Described by co-principal investigator Linda Venenciano as "like a book club for people who enjoy doing math," the Math Teachers'



Profile



Truc Nguyen and her fellow members of the Internet Safety Awards (ISA) team were honored with the national 2011 Director's Community Leadership Award from the Federal Bureau of Investigation at the US Department of Justice in October.

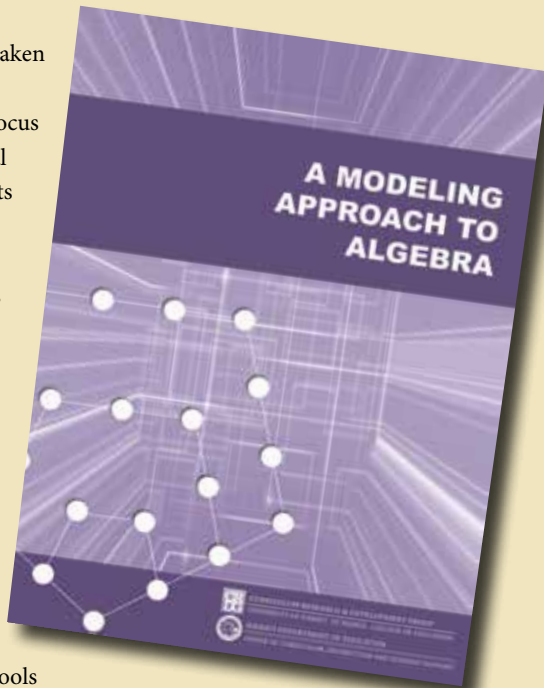
Hawai'i's ISA program began five years ago when founders Chris Duque and Arnold La'anui had the idea to have kids, rather than adults, talk to other kids about what to do online. The public service announcement (PSA) competition this idea spawned has grown every year, with sponsorships and resources coming from Hawai'i's broadcasting, business, education, and law enforcement communities. The Director's Community Leadership Award is awarded nationally to a program for its strong and relevant impact in its community connected to the tenets of the FBI: to serve and protect. The ISA program does this by empowering Hawai'i's children to serve and protect themselves, both through the opportunity for self-expression the program provides and through the information their PSAs get out into the community.

Circle (MTC) program is a large and growing network of groups from around the country designed to engage middle school math teachers in mathematical problem solving and involve them in an ongoing dialogue. In a typical session, the group spends about two hours working on a problem and about one and a half hours discussing mathematical behaviors as presented in the Common Core Standards. Following the summer kick-off, regular monthly meetings for the 2011–2012 school year began in the fall. A grant from the ESEA Title IIA program and collaboration with the Hawai'i Department of Education allowed the program to expand their activities and offer stipends and PD credits.

A recent study on the effect of the MTC program on teachers found that MTC had enabled teachers to see themselves as mathematicians. Teachers cited the professional community created by the circles as a valuable aspect of their participation.

New Supports for Success in Algebra

A new algebra course for high school students to be taken in parallel with Algebra I will focus on fundamental algebra concepts aligned with Common Core State Standards (CCSS) for mathematics. Tentatively titled *Modeling Our World* (MOW), this course is being developed specifically for Hawai'i schools



at the request of the Hawai'i Department of Education. The CRDG mathematics faculty is able to draw on years of exploratory work in developing algebraic thinking from the Measure Up elementary mathematics program, the Reshaping Mathematics for Understanding (RMU) program for middle schools, and *Algebra I: A Process Approach*, one of the earliest mathematics programs developed at CRDG. The new full-year course will include extended performance tasks that will deepen

students' understanding while preparing them for the types of items that will be included in the new assessments associated with the CCSS. *Modeling Our World* will be piloted in selected classrooms throughout the state in the fall of 2012.

Exploring Inquiry Learning in Early Childhood Education

Inquiry is one of our most basic activities as human beings, beginning with babies who use it to make sense of the world around them. Partnerships with the University of Hawai'i at Mānoa Children's Center (UHMCC) and the Navy Hale Keiki School (NHKS) are allowing CRDG's Carol Ann Brennan to research how inquiry is used by young children, thereby extending our understanding of how children learn in the preK years.

Brennan is focusing on the modes of inquiry theorized by CRDG's Francis M. Pottenger III as they apply to young children. She is working with Jeffrey Bock at UHMCC to develop early childhood teaching strategies, including appropriate questioning techniques that promote the development of inquiry skills in young learners. They began their work by observing, identifying, and recording examples of Pottenger's modes of inquiry as employed by young children:

- curiosity—the search for new knowledge out of an innate need to know;
- technological—the search for new knowledge in satisfaction of a need through construction, production, and testing;
- replication—the search for new knowledge through duplication of known operations;
- evaluative—the search for new knowledge about the capacity of products or actions;
- authoritative—the search for knowledge new to the seeker in established knowledge found in artifacts and people;
- mathematical—the search for new knowledge about quantity and number;
- communicative—the search for new knowledge of ways to transmit representation of things or events to others; and
- inductive—the search for new knowledge in correlated data patterns and generalizable relationships, a hypothesis-finding process.

Pottenger has described additional modes of inquiry—deductive, experimental, and theoretical—that develop in later years.



The initial research on inquiry modes fed naturally into an investigation of the role of questioning strategies teachers use to promote the development of inquiry skills. In most cases the questions used by teachers are Socratic-based. That is, teachers have some idea of where they want the questioning to lead, but they follow the child's direction as to how they may get there. Three key questions facilitate this process:

1. What do you think?
2. How could you find out or test your idea?
3. What did you learn or find out?

Brennan and Bock determined that most of the fundamental ideas about how to develop and ask good questions with older students also apply to young learners. These include such things as asking questions on a variety of levels (simple to complex but not necessarily in hierarchical order), using wait time, and creating a safe environment where it is permissible to try out ideas and even be wrong. Results of this and previous research have been presented at National Association for the Education of Young Children (NAEYC) conferences.

Profile



CRDG's Carol Ann Brennan was appointed to a three-year term as a member of the *Science and Children* Advisory Board of the National Science Teacher's Association (NSTA) beginning June 1, 2011.

As part of NSTA's mission to promote excellence and innovation in science teaching and learning for all, the association publishes a range of peer-reviewed journals that reflect the needs of classroom teachers, science supervisors and administrators, teacher educators, and parents. *Science and Children* is NSTA's journal for elementary school teachers.

As a member of the journal's advisory board, Brennan will help guide the journal's editorial direction. One of its primary areas of focus this year is the Next Generation Science Standards and the National Research Council's document, *A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas*.

New Placed-based Science Curriculum

In a collaborative effort, project director Lois Yamauchi of the University of Hawai'i College of Education's Department of Educational Psychology and lead curriculum developer Carol Ann Brennan of CRDG are engaged in a three-year project funded by the US Department of Education to develop and evaluate a placed-based science curriculum for Hawaiian children. The curriculum incorporates the Center for Research on Education, Diversity and Excellence's (CREDE) Standards for Effective Pedagogy, a set of research-based strategies for culturally and linguistically diverse children. The Mohala Nā Pua project involves teachers from Kamaile Academy Charter School, Kawaiaha'o Church School, University of Hawai'i at Mānoa Children's Center, and Wailuku Union Church Preschool. In this first year of the grant, Mohala staff members are working with teachers at each site to design science units built around place-based topics. Topics selected by the teachers include the ocean, gardening, and animal habitats. Some of the units are designed to include the entire school while others focus on a particular grade or age level. These units will be taught and revised in year two and disseminated to other sites as the project expands in year three.

CRDG Evaluation Team Serves the Early Childhood Community and Hawai'i's Race to the Top

CRDG's team of early childhood education evaluators contracted with the Hawai'i P-20 Partnership for Education to collect data at preschools in Hawai'i's two Race to the Top (RTTT) "zones of school innovation" (ZSI). The ZSIs, one in the Nanakuli-Wai'anae area and one in the Ka'ū-Kea'au-Pāhoa area, were established to target support to struggling schools.

RTTT is providing stipends so that children residing in the ZSIs may attend preschool as a way of building their school readiness, and thereby increase their potential for success. Pretest and posttest data collection by the CRDG team will contribute to a longitudinal database that will measure the success of the project.

The team of six data collectors, including principal investigator Susan Saka and CRDG's Sue York and Lorna Afaga, administered the Peabody Picture Vocabulary Test-Edition 4 (PPVT-4), an assessment of receptive English vocabulary widely used in the early childhood education community, to approximately 150 children at 35 sites. Planning and logistics were crucial since the testing window was a mere two weeks.

Scheduling also had to take school schedules and student absences into account, as well as the time of day and attention span of preschool-age children.

CRDG evaluators had previously undergone training and certification for two other early learning assessments and had worked with the University of Hawai'i's Center on the Family to develop local capacity in the area of effective evaluation techniques for use with young children.

Supporting Native Hawaiian Students

Building on past successes, CRDG continued its work providing support to Native Hawaiian students with the Kāko'o Ikaika, Heluhelu Maoli, and Piha Pono projects, all formal partnerships between CRDG and the Hawai'i Department of Education. Since the early 90s, when CRDG became involved with the Pihana Nā Mamo program under the direction of Principal Investigator Morris Lai and Project Director Hugh Dunn, the range and type of supports have continued to expand and evolve.

The three-year Kāko'o Ikaika project is in three O'ahu middle school/high school pairs providing supports for students through the transitions from middle school to high school and from high school into higher education or the workforce. The project, which uses a Response to Intervention (RTI) model that provides a multi-tiered system for literacy and behavior supports, is directly serving 1,700 Hawaiian students, 300 parents, and 500 school staff.

The Heluhelu Maoli: Building a Strong Foundation in Reading and Mathematics for K-3 Hawaiian Children project provides early and strategic supports that build important foundational reading and mathematics concepts and knowledge in K-3 students. The project is focused on four activities: (1) continuing to develop high-quality implementation of a school-wide reading program, (2) increasing focus and resources for students who are in need of targeted reading interventions, (3) developing high-quality mathematics instruction and putting supports in place for struggling first graders, and (4) maintaining an extensive database on K-3 reading and mathematics performance of Hawaiian children. The project directly serves over 2,800 Hawaiian students, 300 teachers and school staff, and 1,000 parents.

Piha Pono, based on these and other previous Pihana projects, is a scaling-up project that leverages former successes to focus on and



expand successful practices. Piha Pono uses a Response to Intervention (RTI) approach that fully integrates reading, mathematics, and behavior supports and is being implemented in 10 schools with relatively high proportions of Native Hawaiian students and notably high levels of poverty. The project goals and activities are to (1) continue refinement of RTI K-3 reading, (2) develop a RTI K-3 mathematics program, and (3) develop and refine a School-Wide Positive Behavior Supports (SWPBS) system.



Updating Place-based Science Curriculum

The Hawai'i Nature Study program, originally conceived and developed by Sister Edna Demanche in the 1970s, was always popular with Hawai'i teachers because, unlike most science textbooks available to them, it provided inquiry-based activities focused on Hawai'i's local plants and animals.

CRDG's Carol Brennan was a member of the original team that worked with Sister Edna, and she is updating the program for a new generation of teachers and students. "While much has changed, the activities continue to be engaging for students," Brennan says. The popular environmental education program includes classroom and outdoor, hands-on, problem solving activities and investigations

focused on Hawai'i's natural environment and on the plants and animals students encounter on their school campuses, in their neighborhoods, or in nearby coastal areas.

The goal is to provide useful resources, so the new edition will be a book of ideas that teachers can adapt as needed to fit their grade level and location. Because CRDG is committed to providing more teaching resources online or in other electronic formats, the new and updated Hawai'i Nature Study will be delivered online.

Expanding Opportunities in the Pacific

One of the more promising uses of technology in education is to provide opportunities to teachers and students in remote locations. This is the goal of the Pacific Education and Research for Leadership in Science (PEARLS) project, a five-year partnership with the John A. Burns School of Medicine (JABSOM) that seeks to help middle-school students in Hawai'i and other Pacific Islands learn more about scientific inquiry through the study of the local environment and about the kinds of careers available in science and technology.

CRDG's Tom Scarlett has worked with the program since its inception, working with teachers in a series of workshops that teach them to use the inquiry method to teach science and to use their local environment in their lessons. Now in its third year, the project continued to work with teachers from Hawai'i, American Sāmoa, Saipan, Yap, and Pohnpei, while adding new teachers from American Sāmoa, Guam, Rota, and Tinian.

In addition to the summer workshops, the teachers receive follow-up support through in-person classroom visits and additional training as well as online meetings.



Profile



Morris Lai, longtime evaluator and principal investigator of the Pihana Nā Mamo Native Hawaiian education programs, received three major awards in 2011: the UH Mānoa Chancellor's Award for Outstanding Service, the president's nomination from the University of Hawai'i system for the governor's award for employee of the year, and the College of Education's Lifetime Achievement Award.

As a longtime evaluator and advocate for Native Hawaiian education, Lai has worked diligently to develop new culturally appropriate evaluation criteria, methods, and techniques. He has been a member of numerous committees and organizations focusing on the Native Hawaiian language, culture, and community and has generated over \$26 million in extramural contracts and grants that serve Native Hawaiian students throughout the state. As one of a small number of faculty members able to read Hawaiian, he has also served on many doctoral committees for Hawaiian students wishing to write their dissertation in Hawaiian. His latest project, affectionately known as the "Lai-berry," is a collection of titles on Hawai'i and Hawaiian education that began with a personal donation of books and has since expanded to over 4,000 titles.

Combining Research and Professional Development

CRDG mathematics researchers Melfried Olson and Fay Zenigami continued to work with teachers at Kapālama Elementary School in Kapālama Algebra Readiness in the Elementary School (KARES), a project that combines research using the Lesson Study (LS) model with a school-wide professional development program for all teachers. Lesson Study, a model first developed in Japan, guides teachers in planning lessons with a focus on students and their understanding, a very different approach from one that starts with what the teacher does to teach the mathematics. In Lesson Study, teams of teachers collaborate to plan research lessons that become the basis for inquiry about their practice.

In a series of CRDG-facilitated workdays in the summer, Kapālama teachers collaborated in grade-level groups to design and develop educative curriculum materials (ECM) in preparation for the development of research lessons. Educative curriculum materials are curriculum materials intended to promote teacher learning in addition to student learning. Rather than merely providing “guidelines” for teacher actions, ECM can provide teachers with insights about the ideas underlying the tasks and choices made for student activities. Educative materials should educate teachers while promoting their autonomy.

In the fall, CRDG researchers worked with each grade-level team as they researched, planned, and taught their first LS lesson of the year. On articulation days, one teacher taught the lesson as designed while the rest of the grade level team and CRDG researchers observed and took notes on student behaviors and class discussions. Following a debriefing focused on the mathematical content of the planned lesson and evidence of student learning, a second teacher from the team taught the revised lesson. Through this



collaborative process under CRDG guidance, the Kapālama teachers developed an understanding of the importance of selecting appropriate and challenging tasks; learned to develop lessons built around those tasks by considering various misconceptions students might have; learned to value the children’s thinking; learned that “wrong answers” have value; and learned to sequence the shared thinking of children. Through Lesson Study, CRDG researchers assisted Kapālama teachers to be more public with their teaching and reflective about their pedagogical practices.

The CRDG team is currently gathering data regarding changes in student achievement and teachers’ instructional practices. Student mathematics scores on the Hawai‘i State Assessment have increased during the project, and the external state Math Science Partnership evaluator has made visits to the school to conduct classroom observations. Quoting from the report, “...the percentages of classrooms aligned with how people learn jumped 35 percentage points...these gains are impressive and these results significantly outperform what we typically see in classrooms.” These and similar results indicate

that the project has been successful. Project teachers, along with CRDG researchers, have presented findings from this combined research and professional development project at national meetings of mathematics education.



Teaching Science as Inquiry Project Researching Professional Development

Under the direction of Kanesa Seraphin, Paul Brandon, and Truc Nguyen, CRDG's science, learning technology, and evaluation teams are working together on a project funded by the US Department of Education to investigate how instruction in inquiry-based teaching enhances marine science education. The Teaching Science as Inquiry-Aquatic Science (TSA-AS) project is a modularized professional development program for teachers that combines instruction in inquiry teaching with marine science content, relating both to the ocean literacy principles developed by a collaborative network of scientists and educators (<http://oceanliteracy.wp2.coexploration.org/>). A complementary marine science curriculum (see p. 5) designed for online delivery is being used for the professional development.

The pilot group started in 2010 with the physical science and chemical aquatic science modules. Beginning in 2011, modules on biological and ecological science were added, so that teachers took the full set of four modules throughout the course of a school year. The structure of the project allows for teachers to attend the workshop, teach the inquiry unit in their classrooms, and then come back for a follow-up session to debrief and share their insights with other teachers. An online learning community provides support and learning on an ongoing basis, providing teachers with direct access to teacher resources as well as interaction with other site users. The TSA-AS platform promotes the discussion of new ideas as well as the sharing of teacher-created resources through a unique content management system that prompts users to "stay and discuss" or "move to the right place." Teachers can rate and write reviews of EOFE materials in addition to having in-depth discussions and sharing in the teacher forum.



STEM Collaboration with Korean Teachers

Forty mathematics and science teachers from all over South Korea visited CRDG in January 2011 to learn about the innovative approaches to teaching, learning, and assessment for which CRDG is well known. Sponsored by the Korean Educational Development Institute (KEDI), the two coordinators and forty teachers, each from a different province in South Korea, were chosen in a competitive process by their Ministry of Education.

UH Mānoa Vice Chancellor Ned Schultz welcomed the group, noting that Chancellor Hinshaw has made it her mission to make UH a destination of choice for people around the world, and citing as an example of these efforts UHM's Center for Korean Studies, which has more specialists focusing on Korea than any other institution in the US.

The ten-day visit included daily professional development sessions in science or mathematics teaching and observations of classes at the University Laboratory School. Sessions focused on the inquiry-based instructional practices developed by CRDG and on challenging students of all ability levels, and they provided for an international exchange of ideas on teaching science and mathematics.

A group of seven Laboratory School students of Korean ancestry in grades six through twelve volunteered to host the teachers, showing them around campus and joining them for a "talk story and lunch" in the cafeteria. They were able to practice Korean while talking with the visitors about the Laboratory School and their science and mathematics classes.

Over the weekend the teachers got to relax with around-the-island tours, shopping excursions, an evening at the Polynesian Cultural Center, and a tour of the Arizona Memorial and Punchbowl Cemetery.



Support for Robotics Programs State-wide

The Makery project held three professional development courses this winter for teachers and support staff in the First Robotics program who wanted to incorporate hands-on design and building into their robotic competitions. Teachers learned to use Autodesk Inventor, a 3D computer aided drawing (CAD) program, to design and create parts for robots. The next step had teachers using the CAD/CAM/CNC process by turning a CAD design into computer aided manufacturing (CAM) computer code. The outputted CAM computer code was then inputted into another computer that controlled a computer numerically controlled (CNC) machine, which then cut out the 3D objects.

This winter's workshops were held in Honolulu and Hilo and included 31 teachers and support staff from Baldwin High School, Honoka'a High School, Kalāheo High School, Konawaena High School, Mililani High School, Moanalua High School, Nānākuli High School, Waiākea High School, Waiānae High School, and Waialua High School. The PD course included four four-hour Autodesk Inventor design training sessions and two seven-hour hands-on workshops where teachers used the laser cutter and CNC machines to cut out their inventor-designed products.

The Makery team of Neil Scott, Raemi Tokuhama, and Kevin Gill strives to promote easy access to high quality machines and proper machining practices. The team is in the process of developing a classroom desktop CNC machine. Once completed, each school will take home a classroom desktop CNC machine from the workshop.



Profile



Melfried and Judith Olson were awarded the 2011 National Technology Leadership Initiative Fellowship Award at the annual meeting of the Association of Mathematics Teacher Educators (AMTE) in Irvine, California for their presentation, “The Nexus between Formative Assessment and Technology in Networked Classrooms: What Have We Learned?” co-authored by Michael Gilbert from the University of Massachusetts, Boston. The presentation described work conducted by a team of fourteen researchers from the University of Hawai‘i that compared two different professional development models for implementing formative assessment in networked classrooms on student achievement of algebraic concepts. The study was funded by a grant from the National Science Foundation and focused on thirty seventh-grade mathematics teachers from fifteen schools in Hawai‘i.

The National Technology Leadership Initiative (NTLI) fellowships were established to recognize exemplary presentations related to the integration of technology into core content areas. The presentation included research results on teacher practices, perceptions, assessment and content knowledge, self-efficacy, implementation, and student achievement.

Physics Project Serves Out-of-Field Physics Teachers

Addressing the pressing need to provide more content knowledge in physics and physical science to secondary science teachers, the Practices in Physics project held a two-week summer institute for teachers from around the state. The teachers, many of whom do not have either an academic background or any experience with physics, had the opportunity to explore, collaborate, and familiarize themselves with content, pedagogy, and technology tips in the areas of forces, motion, sound, and light. The ten-day immersion experience presented the teachers with a series of laboratory activities designed to assist them in gaining the skills to confidently conduct a class in physics/physical science. The teachers also received Hawai‘i Department of Education professional development credits in physics and a set of equipment for their classrooms to facilitate their teaching. The Practices in Physics project team of Arnold Feldman, Lauren Kaupp, E. Barbara Klemm, Francis Pottenger, and James Redmond have been updating the Practices in Physics & Technology curriculum to serve today’s secondary science teachers who may not have a solid foundation in physics/physical science. This project was funded by the US Department of Education through the Improving Teacher Quality State Grants program.

Focusing on Tough-to-Learn Topics in Algebra

The Developing Algebra Resources for Teaching (DART) project has provided a series of professional development experiences in which teachers worked in collaborative teams on algebra topics they identified as challenging to teach or learn in an algebra I course. Twenty-one secondary mathematics teachers from seven O‘ahu schools worked in teams to develop algebra I modules, including the use of appropriate technology, to inform pedagogy and teacher knowledge beyond their textbook materials. The modules, referred to as educative curriculum materials (ECM), are intended to promote teacher learning in addition to student learning. In three whole-day professional development sessions conducted by CRDG’s Fay Zenigami, Hannah Slovin, Judy Olson, and Melfried Olson during the 2010–2011 school year, participants engaged in activities to deepen their own understanding of key algebra concepts and the Common Core State Standards for mathematics. They then identified topics related to proportional reasoning, algebraic reasoning, and rate of change and linearity as important yet difficult concepts for them to teach or for students to learn in a beginning algebra course. During the five-day summer 2011 professional development, the teachers organized into teams and closely examined their curriculum, other resource materials, and the Common Core State Standards for mathematical practices and content. They researched relevant literature, including technology and

online resources, to develop materials for these topics. In addition to three whole-day professional development sessions during 2011–2012, teachers piloted activities to help their team further reflect on and refine their educative curriculum materials. Several teachers also observed others from their teams teach, which gave them feedback and insights on how their materials could be revised or enhanced.

Partnering for Professional Development

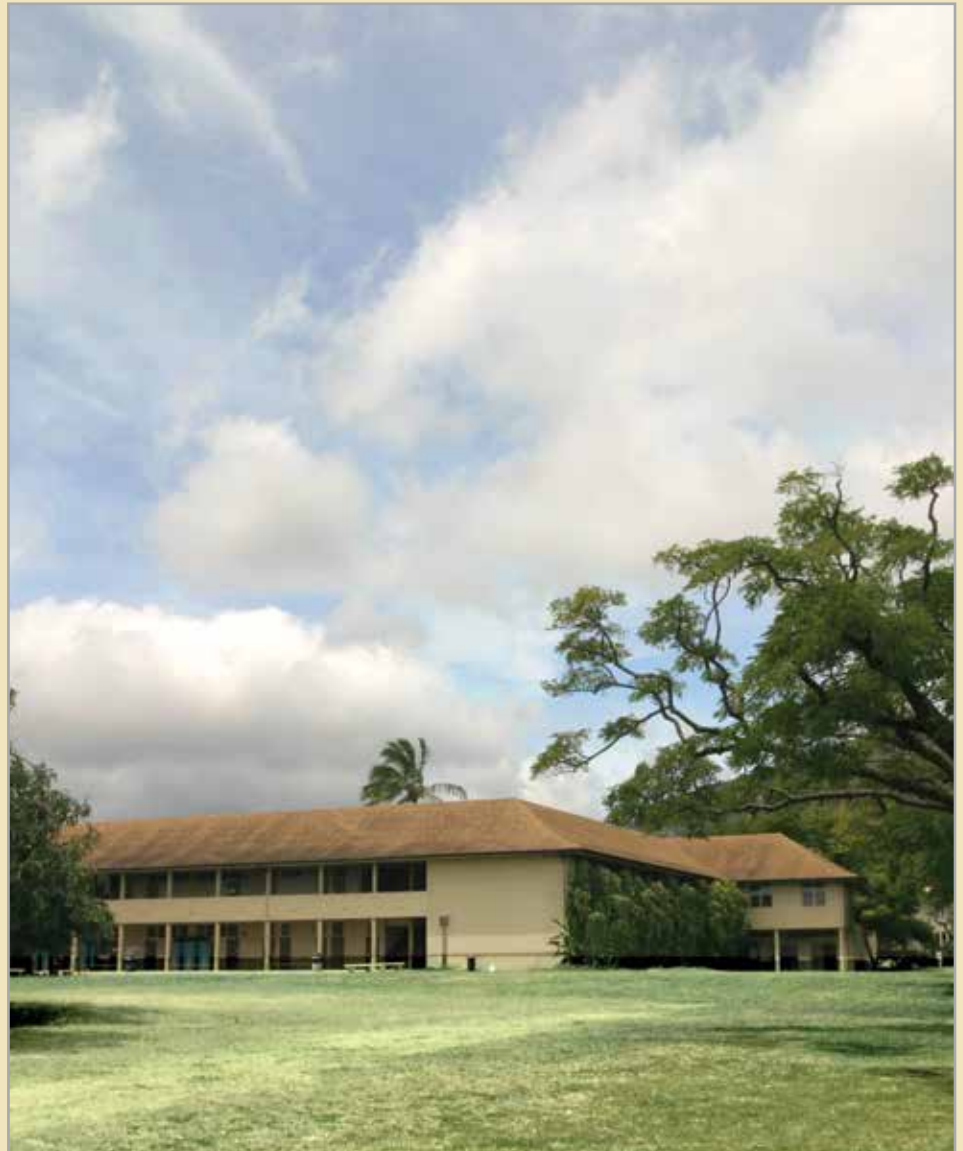
The University Laboratory School Technology Professional Development Initiative (ULS Tech PD) serves as the perfect example of how the partnership between CRDG and ULS has both remained strong and continued to evolve. In 2011, CRDG engaged several schools across the state in a field test of *Designing Professional Development for Educators*, a resource CRDG created with the Hawai'i Department of Education to help guide individual schools, complexes, and districts in identifying and designing programs of professional development to meet their specific needs. In conjunction with that field test, a group of ULS teachers, who are the driving force of the ULS Technology Committee, utilized the *Designing Professional Development for Educators* process and off- and on-line tools to develop their own school-wide, technology-focused professional development initiative. In keeping with their roles as teacher-researchers, they provided CRDG with substantive feedback meant to help revise the guide before its release to the public.

The ULS Tech PD focused on building basic fluency among the entire faculty and staff in four major areas: MacOS (school-wide operating system), PowerSchool (school-wide student information system and mandated gradebook system), Google Apps for Education (school-wide information dissemination system), and classroom hardware (hotspots/airports, projectors, SmartBoards, Epson BrightLinks, network features, server space, etc.). Although the focus was on helping the ULS community of learners to establish basic fluency, the planners hoped that the Tech PD would also help breathe twenty-first century life into the school programs. More and more, students enter the classroom with basic, if not advanced, fluency in the wide range of technological tools and methods available to them. The ULS faculty see their job as capitalizing on this knowledge and using it to bring new light to the disciplinary perspective that is the foundation of the ULS

program. As the disciplines evolve and change over time, it is important to afford students the opportunity to engage in new methods of representing and disseminating knowledge in a technological society.

The initial phase of the Tech PD Planning Committee's efforts resulted in a list of goals, a set of measurable outcomes, and a year-long skeleton structure of the lessons, workshops,

resources, and other support that would drive the PD initiative. Another result of the ULS Tech PD has been the dissemination of information and best practices to other schools and programs. ULS teachers and administrators have engaged other school communities through conference presentations and visitations in imagining ways to create and implement their own professional development tailored for their unique settings.



Profile



Ira Wong has been ULS Director of Bands for seventeen years, influencing the lives and musical understanding of hundreds of ULS students. As a teacher who is also a professional in his discipline, Ira is engaged in both the teaching and creation of music. In November 2011, the Dallas Wind Symphony performed Ira's orchestral arrangement of the finale to Aaron Copland's *Third Symphony* at the Morton H. Meyerson Symphony Center in Dallas, Texas, under the direction of Jerry Junkin. The Dallas Wind Symphony is regarded as one of the world's leading wind orchestras, and Copland's *Third Symphony* is one of the orchestral masterworks of the twentieth century.



The concert performance of his arrangement was broadcast nationally on American Public Media's Performance Today® on National Public Radio (NPR) and locally on Gene Schiller's Morning Cafe radio show on Hawai'i Public Radio (HPR).

ULS Research Program

As part of an effort to champion the innovative and unique nature of Hawai'i public charter school education, ULS engaged with the Hawai'i State Teachers Association to create a ULS supplemental agreement to the HSTA Master Contract that includes research as a teaching duty. As the only public school dedicated to a dual, interlocking mission of teaching and research, ULS faculty and administration feel strongly that research must be included in and protected by the school's teaching contracts. The supplement agreement allowed the creation of the ULS Research Program, established in 2011 and focused on building the capacity of teacher-researchers. All faculty members are encouraged to apply for a research credit, which becomes part of their teaching and support duties. The Research Council, composed of faculty and led by ULS Dean of Curriculum & Instruction Miki Tomita, helps to mentor and support the efforts of these beginning researchers through a process that involves the formulation and articulation of a researchable problem, a light literature review, development of methods and measures appropriate for a one-year, one-credit project as well as eventual publication and presentation of these results. Two projects are in progress this year. Science teacher Laura Sheehan is studying how student disposition and achievement vary with different approaches to major biological concepts, and English teachers Bill Teter and Alison Hartle are creating a teacher resource manual for the writing element of ULS and CRDG's successful and innovative Golden Triangle language arts curriculum.

Laboratory School Seeks WASC Accreditation

In 2011, the University Laboratory School initiated the process for achieving accreditation through the Accrediting Commission for Schools, Western Association of Schools and Colleges (ACS WASC). WASC serves over 4500 schools, public and independent, from preK-12 to adult. The WASC accreditation process is meant to foster excellence in education by encouraging consistent school improvement. Accreditation by WASC indicates that a school is meeting expectations for quality in accordance with research-based WASC criteria.

After an initial visit in December 2011, the WASC visiting team recommended ULS for initial accreditation for the entire K-12 comprehensive program. The term of initial accreditation runs through June 30, 2015. During the next few years, ULS will undertake a self-study assessment to address self-identified areas of improvement and recommendations made by the WASC team and to better articulate and refine their areas of strength and innovation.

The ULS administration, led by Principal Keoni Jeremiah, believes strongly that the WASC accreditation process will help the whole school faculty and staff strengthen their work as a public charter school and site for education research and innovation as well as their efforts to communicate with their various stakeholders about the many facets of the ULS program.

CRDG Supporting Implementation of Next Generation Standards in Hawai'i

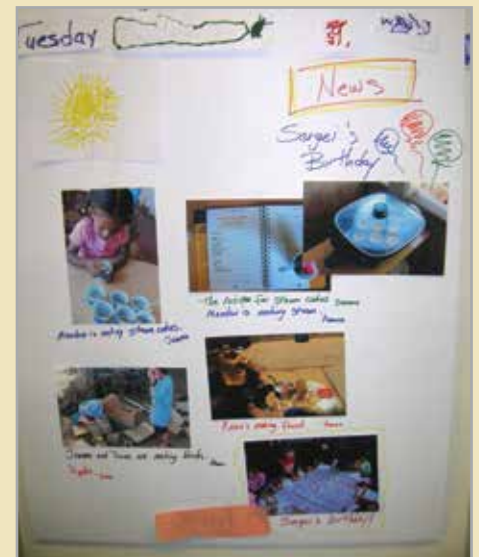
CRDG continued its partnership with the Hawai'i Department of Education (HIDOE) this year on a range of initiatives. In preparation for the implementation of the Common Core State Standards (CCSS) in mathematics and English language arts (ELA), and in planning for adoption of the Next Generation Science Standards (NGSS) when they become available in 2013, CRDG has been working collaboratively on efforts to support effective teacher professional development, to create guidelines for instructional materials selection and/or development, and to develop new programs.

In mathematics, the CCSS emphasize mathematical practices, problem solving, and learning progressions that enable students to develop deep understanding and fluency in mathematics, including an emphasis on developing algebraic thinking beginning in kindergarten. With ten years of experience in the Measure Up project on how students develop algebraic thinking, CRDG's research base is among the best available on which to draw to design instructional materials and professional development that enable teachers to meet the requirements of CCSS mathematics. CRDG mathematics faculty, in collaboration with HIDOE, are also developing a new algebra course for high school students to be taken in parallel with algebra I or algebra II that focuses on hard-to-teach algebra concepts aligned with CCSS mathematics (see p. 7).

While the next generation of science standards are not expected to be available until late 2012, the National Research Council (NRC) document *A Framework for K–12 Science Standards: Practices, Crosscutting Concepts, and Core Ideas* on which the science standards will be based, emphasizes teaching science as inquiry, the importance of focusing on the practices of science, and learning progressions that allow students to incrementally develop

and deepen their understanding of science. With decades of research in science curriculum development with these same foundational concepts, CRDG has already begun work on a related project. Entitled STEM in Early Education, the project is designed to develop integrated systems of job-embedded professional development and teacher supports and to creatively use existing and emerging technologies for teaching inquiry-based learning progressions aligned with the NRC framework for science education.

Another aspect of the CRDG collaboration with HIDOE involves the development of criteria for selecting instructional materials that align with the new standards. CRDG spent much of the last year researching and developing appropriate criteria, including recommended rating scales and decision points. The final selection criteria focused on CCSS mathematics and ELA were completed this year. Development of science selection criteria is pending the release of the NGSS in late 2012.



CRDG Contributes to Picture of Adolescent Health in Hawai'i

The Youth Risk Behavior Survey (YRBS) is one component of the Hawai'i School Health Survey and is administered in odd-numbered years to public school students in grades six through twelve. The YRBS is part of the Youth Risk Behavior Surveillance System developed by the US Department of Health and Human Services, Centers for Disease Control and Prevention (CDC) in collaboration with representatives from state and local departments of education and health, other federal agencies, and national education and health organizations. CRDG's Susan Saka has been administering the YRBS to public school students in middle and high schools since 1993, gathering data on a variety of CDC-developed questions as well as on topics of local interest. The data then drive a host of health related programs both here in Hawai'i and nationally. At the state level, the data help in the tracking of key indicators of health and well-being among youth and inform programs across the Hawai'i Department of Health in the Family Health Services Division, Emergency Medical Services & Injury Prevention Division, Chronic Disease Prevention and Management Division, and Healthy Hawai'i Initiative for monitoring, program planning, and evaluation. For the general public, websites like the Hawai'i Health Data Warehouse (<http://www.hhdw.org/>), Hawai'i Health Matters (<http://www.hawaiihealthmatters.org/index.php>), and the Centers for Disease Control and Prevention's Youth Risk Behavior Surveillance System (<http://www.cdc.gov/healthyyouth/yrbs/index.htm>) provide a wealth of data about health trends and goals in our community and our nation. With CRDG's tenth administration of the YRBS in Hawai'i's public schools in 2011, Hawai'i now has nearly twenty years of data on adolescents' behavior related to their health and well-being.



Profile



Neil Scott was presented with the Pacific Aviation Museum's (PAM) first STEM Education Award on December 1, 2011. The award was given at the museum's Fifth Anniversary Dinner & Hangar Dance, an event that commemorated the seventieth anniversary of Pearl Harbor. The STEM award is the first of what will be an annual award. Scott and his Archimedes Hawai'i team developed flight simulators and a portable wind tunnel to help teach sixth graders about the principles of flight as part of PAM's "Barnstorming Tour" education program. PAM and BAE Systems, who awarded Scott two grants during the design and construction process, have a goal of reaching all of Hawai'i's sixth graders with the program. "In this age of simulating everything on a computer screen, it was very gratifying to receive acknowledgement for a system that uses a real physical apparatus and real physical movements to provide more lifelike experiences," Scott said. Scott acknowledged fellow CRDG colleagues Kathleen Berg, Raemi Tokuhama, and Kevin Gill, all of whom worked on the program with PAM.

USPACOM Longitudinal Study of Military Child Education in Hawai'i

According to Department of Defense (DoD) databases, there are over twenty thousand school-age children of military families who reside in Hawai'i, with approximately fifteen thousand enrolled in the state's public schools, about 8 percent of the total public school enrollment. The Longitudinal Study of Military Child Education in Hawai'i (better known as the Military Child Education in Hawai'i Study) was commissioned by the United States Pacific Command (USPACOM) to help provide a picture of the educational needs and opportunities facing these students and their families.

Most military members stationed in Hawai'i have a tour of duty lasting three years, and military families transitioning to Hawai'i face unique challenges. These challenges include transition to a new culture, attendance at non-DoD schools, parental deployments, concerns about the quality of education, and the adjustment of school-age children to new schools and social situations.

Using online surveys and face-to-face focus groups, the study's specific objectives were to 1) document youth and parental perceptions of education in Hawai'i and possible contributing factors; 2) explore how attitudes, concerns, and perceptions about education (public, charter, private, and home school) in Hawai'i change over time; 3) identify the consequences of living and being schooled in Hawai'i after families move to a new duty station; and 4) provide policy and programmatic guidance to assure that military families experience a positive tour of duty in Hawai'i and that their children have optimal educational and social opportunities.

To date there has been no systematic, longitudinal survey sampling the same adults and children over multiple years. The Hawai'i Department of Education (HIDOE) and USPACOM previously sponsored a series of cross-sectional studies, the most recent of which was HIDOE-funded and conducted by CRDG in 2006-2007 under

the direction of CRDG's Kathleen Berg with participation by researchers from the Johns Hopkins Bloomberg School of Public Health. Providing this longitudinal data is the central contribution of this new three-year study, also a partnership between Johns Hopkins Bloomberg School of Public Health and CRDG.

Data collection, both qualitative and quantitative, began in 2010 from those arriving on island. Longitudinal data collection began in 2011 from both on-island and change-of-duty parents and children. The study will conclude in mid-2012 with final results made available at that time.



Go to www.hawaiiikids.org and take a brief survey about schools in Hawaii and the special stresses and opportunities you and your children have experienced.

This survey is for parents of all school age children, ages 5 to 18. In addition, you can give permission for your children over 10 to take a youth survey.

- For parents, the survey takes less than 30 minutes.
- Children 10 years and older can also complete the survey. For them, it less than 15 minutes.
- Children are eligible for prizes!
 - iTunes cards
 - MP3 Players
 - Grand Prize: Flat screen HD TV

USPACOM has contracted Johns Hopkins University, who has teamed with the University of Hawaii, to complete this first-ever study. We meet every six months with senior military leadership to review the data and discuss recommendations.



Interstate Compact on Educational Opportunity for Military Children



CRDG associate director Kathleen Berg was appointed in 2009 by the state Board of Education as the first Hawai'i State Commissioner for the Military Interstate Children's Compact Commission (MIC3), the national governing body of the Interstate Compact on Educational Opportunity for Military Children. This year, in fall 2011, her term was extended for another two years.

Hawai'i was the fourteenth state to join the compact, which by November 2011 included thirty-eight states and covered nearly 90 percent of military dependent students in the nation's public schools. The compact was designed to ease the transitions from school to school and from state to state that are part of the reality for children in military families due to regular moves between postings. While the armed services have made great strides in easing the transition of their personnel, their spouses, and, most importantly, their children, much remains to be done at the state and local levels to ensure that the children of military families are afforded the same opportunities for educational success as other children. Hawai'i has been at the forefront of those efforts, with initiatives such as the Joint Venture Education Forum and, now, work with the MIC3. The fifteen-member state council, chaired by Berg, had its first meeting in April 2010. It was attended by the governor, who emphasized the importance of the compact. Since then the state council has addressed issues such as eligibility for athletic activities and placement involving algebra and Hawai'i state history courses. Berg has served as the national vice chairman of the MIC3 since fall 2009, having been reelected to the post in 2010 and 2011.

Berg, who retired in 2009 from military service as a brigadier general and traditional member of the National Guard, brings real-life experience to her position, having been both a military spouse and a recognized member of the Hawai'i Air National Guard. As an educator, she has extensive experience teaching K-12 and has been associate director of CRDG since 2003. Her most recent research interests have centered on issues affecting military dependent students in Hawai'i public schools.

Profile

In 2011, Kathleen Berg was recognized by the Joint Venture Education Forum (JVEF) with a JVEF Outstanding Contributor Award. Each year since the award began in 2003, two individuals—one representative of the military and one of the civilian JVEF membership—are recognized for their work to further the goals of JVEF. Berg was named 2011 Outstanding Civilian JVEF Contributor at the JVEF annual meeting in August.

Established in 1999, JVEF is a partnership of the military community and the public schools of Hawai'i. Co-chairs are the United States Pacific Command (USPACOM) Director of Manpower, Personnel, and Administration and the Hawai'i Superintendent of Education. Board members include representatives from the following: all branches of the US armed services (Air Force, Army, Marine Corps, Navy, Coast Guard), Hawai'i National Guard, state Board of Education,

state legislature, Chamber of Commerce of Hawai'i, Hawai'i Business Roundtable, schools and districts with high proportions of military-dependent students, and parent organizations.

Berg served on the board for a number of years as the representative for the Hawai'i Air National Guard (HIANG), then after her retirement from HIANG in 2009, as the civilian co-chair of the JVEF Information and Communications Strategy Group. JVEF facilitates active military participation in Hawai'i public education, serving to advance the military community's responsibility in the pursuit of quality education for Hawai'i's public school students.



Keeping Up with Trends in IT

When most of us think about our information technology (IT) staff, we think of the people who come to fix our computer when things don't work. But as IT becomes a bigger and more integrated part of our life and work, it's the behind-the-scenes work that few of us see that makes things so effortless for the rest of us. CRDG's IT team, led by Mark Yap, is always watching for trends in hardware, software, and systems management that allow our work to stay at the cutting edge.

This year, a major research program is concerned with filtering—the decisions about which parts of the World Wide Web to block and which to leave accessible in the school environment. While there are obvious “blacklist” or “whitelist” topics at the far ends

of the spectrum, the big grey area in the middle leaves administrators with a challenging set of policy decisions and no clear guidelines for how to approach them. One commonly cited example is the conflict that arises in trying to block pornography while allowing the kinds of search terms that come up in health and biology classes. Another issue is allowing legitimate searches that may relate to schoolwork while blocking things like social networking sites or sports news sites. Working in partnership with the University Laboratory School and using the research findings from the Multimedia Juvenile Victimization project (see p. 4), the IT team is looking at all the factors that go into this very complex issue with the ultimate goal of making sure the right type of infrastructure is in place to achieve the

right balance between IT policies and academic goals. And, because the education field has no go-to place for this topic, they hope to be able to influence policy by developing guidelines and procedures that any school can use to assess their own needs.

As technology has become a bigger part of life in general, the goal should be to make it more a part of education as well. For a school, or school district, having computers in the classroom is no longer enough. Today, administrators need to think in terms of a combination of the right IT policies, the right kinds and numbers of devices, the right filtering policies and infrastructure, and the right professional development to keep teachers and staff informed and educated.

New Publications



No Nā Mamo, Tradition and Contemporary Hawaiian Beliefs and Practices

Malcolm Nāea Chun

This updated and revised compilation of books in the acclaimed Ka Wana series brings them together in a single volume along with new material and a new 32-page color section.

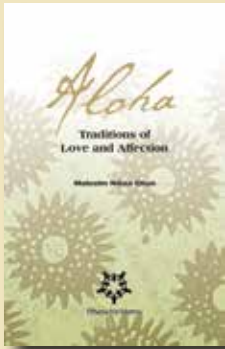


CRDG hosted a book launch and signing for *No Nā Mamo* in November. The new volume was co-published with the University of Hawai'i Press.



Author Malcolm Nāea Chun signed copies of *No Nā Mamo* for guests.

Profile



Aloha, Traditions of Love and Affection

Malcolm Nāea Chun

In this final volume in the Ka Wana series, the author looks at how the word *aloha* has been used by Hawaiians before and after contact with explorers and, later, with missionaries, discovering what *aloha* really meant in traditional Native Hawaiian culture before European visitors came ashore in 1778.



The Voices of the Youth (Nā Leo o nā 'Ōpio): Our Online Safety

edited by Thanh Truc Nguyen

Students responded to the questions “What issues do you think of when you consider Internet safety?” and “Do you have any concerns for your own Internet safety as youths?” in an essay competition on Internet safety. This selection of award-winning essays provides insight into how young people experience life online.

CRDG Begins Offering eBooks

CRDG’s Marketing and Publications Service (MaPS) has many years of experience disseminating CRDG-developed curriculum products and coordinating professional development services to the K–12 education community. As technology continues to play a bigger role in education, the methods of delivery for those products and services are shifting. “Classroom delivery has changed in the twenty-first century,” said Helen Au, CRDG Assistant Director. “We need to understand and respond to the market demand. Digital citizens require products and services instantaneously, and conveniently; they often access information via tablets and other mobile devices.” From revamping CRDG’s website design and infrastructure for friendly mobile display and eBook preview, purchase, and download to upgrading CRDG’s design and technical staff’s digital skills and knowledge, MaPS’ goals are to create platforms and infrastructure that allow digital and online curriculum delivery for CRDG products. *The Voices of the Youth*, the *Reshaping Mathematics* series, the *Write Way Journal Prompts* series, the first titles in the *Ka Wana* series, *Chinese New Year*, and selected other titles were made



CRDG’s technology coordinator, Mark Yap, was the recipient of the University of Hawai’i, College of Education’s Transformation Award for 2011. While the technology solutions he has created for CRDG, ULS, and the entire College of Education are truly transformative, Yap is best known, and most appreciated, for anticipating technology needs and for putting solutions in place before problems arise. He has established inventory controls, regular hardware and software replacements, and essential archiving and backup systems and is currently working on curriculum delivery to web-based and mobile applications. He has also been instrumental in helping ULS establish and implement their technology programs. As a member-participant of the Apple Developer Connection (ADC) and the Filemaker Solutions Alliance (FSA), he remains informed of the latest trends in hardware and software. Through his work, Yap has brought an elevated level of professional standards to CRDG’s IT services and kept the college at the forefront of innovations.

available as eBooks in 2011. Other online and electronic formats for delivery of professional development and creation of online learning communities are being developed as CRDG continues to explore new ways to introduce technology and innovation throughout its operations.

BOOKS/MEDIA

Chun, M. N. (2011). *Aloha: Traditions of love and affection*. Honolulu: Curriculum Research & Development Group and University of Hawai'i Press.

Chun, M. N. (2011). *No nā mamo: Traditional and contemporary Hawaiian beliefs and practices*. Honolulu: Curriculum Research & Development Group and University of Hawai'i Press.

Nguyen, T. T. (2011). *The voices of the youth (Nā leo o nā 'ōpio): Our online safety*. Honolulu: University of Hawai'i at Mānoa, Curriculum Research & Development Group.

CHAPTERS IN BOOKS

Nguyen, T. T. (2011). School faculty perspectives about internet-safety youth behavior online. In C. D. Maddux (Ed.), *Research highlights in technology and teacher education, 2010*. Chesapeake, VA: Society for Information Technology and Teacher Education.

Olson, M. (2011). Overview to Section III: Motivation and disposition in the classroom. In D. Brahier (Ed.), *Motivation and disposition: Pathways to learning mathematics, 2011 yearbook*. Reston, VA: National Council of Teachers of Mathematics.

Sjostrom, M. P., & Olson, M. (2011). Preparing for lesson study: Tools for success. In L. C. Hart, A. Alston, & A. Murata, (Eds.), *Learning together: Lesson-study research and practice in mathematics education*. New York, NY: Springer Publishing.

PEER REVIEWED PUBLICATIONS

Ayala, P. L., & Nguyen, T. T. (2011). *Internet safety, parental monitoring, and control in the changing mobile devices environment*. Philadelphia, PA: Digital Library of International Society for Technology in Education.

Brandon, P. R. (2011). Reflection on four multisite evaluation case studies. In J. A. King & F. Lawrenz (Eds.), *Multisite evaluation practice: Lessons and reflections from four cases*. *New Directions for Evaluation*, 129, 87–95.

Brandon, P. R., Smith, N. L., & Hwalek, M. (2011). Aspects of successful evaluation practice at an established private evaluation firm. *American Journal of Evaluation*, 32, 295–307.

Cox, T. E., Baumgartner E., Philippoff, J., & Boyle, K. (2011). Spatial and vertical patterns in the tidepool fish assemblage on the island of Oahu. *Environmental Biology of Fishes*, 90, 329–342.

Higa, T. A. F., & Brandon, P. R. (2008). Participatory evaluation as seen in a Vygotskian framework. *Canadian Journal of Program Evaluation*, 23(3), 103–125. (Publication of this issue was delayed until 2011.)

Kaupp, L. J., Measures, C. I., Selph, K. E., & Mackenzie, F. T. (2011, February). The distribution of dissolved Fe and Al in the upper waters of the eastern equatorial Pacific. *Deep Sea Research Part II: Topical Studies in Oceanography*, 58(3–4), 296–310. doi: 10.1016/j.dsr2.2010.08.009

Nguyen, T. T., & Jumawan, F. V. (2011). Online learning community development expectations: A science story. *Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education*. Chesapeake, VA.

Nguyen, T. T., Liebengood, F. D., & Ayala, P. L. (2011). Digital citizenship: Cyberbullying, sexting, & online sharing, an empirical study of student awareness. Paper presented at the 2011 annual meeting of the American Educational Research Association. AERA Online Paper Repository.

Papini Warren, D., Duncan Seraphin, K., Wilkins, L. R., & Rego, F. D. (2011). Engineering energy solutions: Facilitating hands-on design projects for middle and high school students via a statewide professional development program for teachers. *Proceedings of the American Society of Engineering Education 2011 Annual Conference & Exposition*. Vancouver, Canada.

Smith, N. L., & Brandon, P. R. (2011). If not to predict, at least to envision, evaluation's future. *American Journal of Evaluation*, 32, 565–566.

OTHER PUBLICATIONS

Berg, K. (2011, September). MIC3 across the nation: (Hawaii). MIC3... *News, Views and Transitions: Newsletter for the Interstate Commission on Educational Opportunity for Military Children*. <http://www.mic3.net/documents/MIC3Newsletter-Sept2011.pdf>

Erchick, D., Becker, J., Forgasz, H., Wiest, L., Steinhorsdottir, O., Olson, J., Olson, M., Joseph, M., Piatek-Jimenez, K., & Dornoo, M. (2011, October). Working group on gender and mathematics: Redefining research agendas around gender, international contributions, and teaching. In Wiest, L. R., & Lamberg, T. (Eds.), *Proceedings of the 33rd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Reno, NV: University of Nevada, Reno.

Higa, T. F., Oshiro, E. M., & Nakamura, A. D. H. (2011). *A formative evaluation report about the mathematics and culture in Micronesia: Integrating societal experiences (Project in year 2)*. Honolulu: University of Hawai'i at Mānoa, Curriculum Research & Development Group.

Higa, T. F., & Oshiro, E. M. (2011). *An evaluation report about the implementation and outcomes of the Kapalama Algebra Readiness in the Elementary School Project in 2010–11 (Project year 2)*. Honolulu: University of Hawai'i at Mānoa, Curriculum Research & Development Group.

Higa, T. F., Sagaysay, L., Oshiro, E. M., & Nakamura, A. D. H. (2011). *The Campbell sub-grantee's 21st Century Community Learning Center project*. Honolulu: University of Hawai'i at Mānoa, Curriculum Research & Development Group.

Higa, T. F., Sagaysay, L., Oshiro, E. M., & Nakamura, A. D. H. (2011). *The Central Kaua'i sub-grantee's 21st Century Community Learning Center project*. Honolulu: University of Hawai'i at Mānoa, Curriculum Research & Development Group.

- Nguyen, T. T. (2011). School faculty perspectives and readiness for digital citizenship and internet safety. *Proceedings of the Bukkyo University International Conference*. Honolulu, HI. (Paper available in English and Japanese)
- Nguyen, T. T. (2011). *Welcome to the Consortium of State and Regional Educational Research Associations (SRERA) website*. <http://www.srera.org/>
- Olson, M., Gilbert, M., Olson, J., & Slovin, H. (2011, January). Comparison of changes in mathematical content knowledge for teaching of middle grades teachers in a two-year research project to examine effects of two professional development models for implementing formative assessment in networked classrooms. *Proceedings of the Annual Hawai'i International Conference on Education* (pp. 3784–3792). Honolulu.
- Olson, J., Gilbert, M., Slovin, H., Olson, M., & La, T. (2011, January). Case studies of teachers' implementation of formative assessment in a networked classroom. *Proceedings of the Annual Hawai'i International Conference on Education* (pp. 47–70). Honolulu.
- Olson, T., & Olson, M. (2011, January). Comparing preservice teachers' view of the importance of understanding fractions with their ability to adequately explain solutions to word problems involving fractions. *Proceedings of the Annual Hawai'i International Conference on Education* (pp. 162–176). Honolulu.
- Olson, T., & Olson, M. (2011, October). Comparing secondary teachers' ability to model solutions in problem context involving fractions and algebraic structures to their perceptions of the adequacy of their modeled solutions. In L. R. Wiest & T. Lamberg (Eds.), *Proceedings of the annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1233–1242). Reno, NV.
- Olson, J., Olson, M., & Gilbert, M. (2011, March). The Nexus between formative assessment and technology in networked classrooms. What have we learned? In M. Koehler & P. Mishra (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2011* (pp. 4039–4045). Chesapeake, VA.
- Olson, M., Zenigami, F., Slovin, H., & Olson, J. (2011, October). Educative curriculum materials in professional development. In L. R. Wiest & T. Lamberg (Eds.), *Proceedings of the annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Reno, NV.
- Venenciano, L. C. H. (2011). *A theoretical model for the Measure Up program: Relationships among logical reasoning and algebra preparedness*. ProQuest Dissertations and Theses. <http://search.proquest.com/docview/955181027?accountid=27140>
- Young, D. B. (2011). *Standards streamlining project performance report September 1, 2009–July 31, 2011*. Honolulu: Curriculum Research & Development Group, University of Hawai'i.
- Young, D. B., Brandon, P. R., Brown, B., Nguyen, T. T., Schlosser, J., Lorenzana, R., Pottenger, F. M., Slovin, H., Zenigami, F., & Oshiro, E. (2011). *Designing professional development for educators*. Honolulu: Hawai'i Department of Education.
- Young, D. B., Brandon, P. R., Oshiro, E., Brennan, C. A., Pottenger, F. M., Schlosser, J., Nguyen, T. T., Scarlett, T., Slovin, H., Berg, K., Olson, M., Brown, B., Lewis, J., & Zenigami, F. (2011). *Instructional materials selection components and criteria*. Honolulu: Hawai'i Department of Education.
- York, S., & Higa, T. F. (2011). *An interim external evaluation of the Center for 'Ohana and Self-Management of Chronic Illnesses (COSMCI)*. Honolulu: University of Hawai'i at Mānoa, Curriculum Research & Development Group.
- York, S. E., & Lai, M. K. (2011). *Formative evaluation of the Center on the Family Early Reading First Hui A'o Mua Project*. Honolulu: University of Hawai'i at Mānoa, Curriculum Research & Development Group.
- York, S. E., & Lai, M. K. (2010). *Hui A'o Mua Early Reading First: Year 1 Evaluation Report*. Honolulu: University of Hawai'i at Mānoa, Curriculum Research & Development Group.
- Zenigami, F., & Olson, M. (2011, January). Examining the educative curriculum materials component in the first year of a three-year school-wide professional development model to enriching teacher mathematical and pedagogical content knowledge. *Proceedings of the Annual Hawai'i International Conference on Education*. Honolulu.

GRANTS AND CONTRACTS

- Berg, K. Hawai'i Quality of Life Survey: A Study of Military Families on Tour in Hawai'i. US Department of Defense (USPACOM through Johns Hopkins University). \$52,799. 2009–2012.
- Berg, K. Pacific Aviation Museum (PAM) Barnstorming Tour Project. BAE Systems. \$22,740. 2009–2011.
- Cooper, P., Lemus, J. D., Duncan Seraphin, K., Sakamoto, C., & Thomas F. I. M. Center for Ocean Science Education Excellence (COSEE)–Island Earth. National Science Foundation. \$245,145 October 2011–October 2014.
- Cooper, P., Duncan Seraphin, K. M., Sakamoto, C., & Strang, C. Pacific Ocean Literacy for Youth, Publics, Professionals and Scientists (POLYPPS). National Science Foundation Centers for Ocean Science Education Excellence (COSEE) Collaboration. \$150,000. September 2008–September 2012.
- Duncan Seraphin, K., Okimoto, D., & Lerner, D. T. Exploring our Fluid Earth: NOAA Ocean Science Curriculum, Teacher Professional Development and Public Outreach. National Oceanic and Atmospheric Administration (NOAA)–Office of Education, \$1.2 M. August 2010–August 2013.
- Duncan Seraphin, K. M., Nguyen, T., & Brandon, P. R. Accessible Professional Development for Teaching Aquatic Science Inquiry. US Department of Education–Institute of Education Services. Teacher Quality–Mathematics and Science Education, Goal 2, \$1.49 M. March 2010–February 2013.
- Duncan Seraphin, K. M. Ocean Literacy Learning through Art. Maui Jim/Sunglasses. \$2,500. August 2011–October 2011.

- Higa, T. F. An Evaluation of the Central Kaua'i sub-grantee's 21st Century Community Learning Centers. Hawai'i Department of Education. \$30,000. 2011–2012.
- Higa, T. F. KARES Evaluation. Hawai'i Department of Education. \$12,960. 2010–2011.
- Higa, T. F. KARES Evaluation. Hawai'i Department of Education. \$12,960. 2011–2012.
- Higa, T. F. An Evaluation of the Campbell Complex's 21st Century Community Learning Centers. Hawai'i Department of Education. \$45,000. 2010–2011.
- Higa, T. F. An Evaluation of the Campbell sub-grantee's 21st Century Community Learning Centers. Hawai'i Department of Education. \$45,000. 2011–2012.
- Higa, T. F. An Evaluation of the Farrington-Kalihi Learning Center sub-grantee's 21st Century Community Learning Centers. Hawai'i Department of Education. \$58,000. 2010–2012.
- Higa, T. F. Evaluation of MACIMISE. Pacific Resources for Education and Learning. \$23,000. 2010–2011.
- Lai, M. K. Kāko'o Ikaika: Supporting Adolescent Hawaiian Students to Achieve High Standards. US Department of Education. \$2,570,936. 2009–2012.
- Lai, M. K. Heluhelu Maoli: Building Strong Foundations in Reading and Mathematics. US Department of Education. \$3,203,361. 2009–2012.
- Lai, M. K. Piha Pono. US Department of Education. \$901,023. 2011–2012.
- Nguyen, T. T. Multimedia Juvenile Victimization: Insights into Youth Behavior to Help Law Enforcement. US Department of Justice. \$435,689. 2009–2011.
- Nguyen, T. T. Evaluation of Waikiki Aquarium's Bay Watershed Education and Training Hawai'i Program. National Oceanic and Atmospheric Administration. \$6,005. 2011–2012.
- Olson, M., & Olson, J. Nspired Algebra. US Department of Education. \$48,017. 2011–2012.
- Olson, M., Slovin, H., & Olson, J. The Effects of Formative Assessment in a Networked Classroom on Student Learning of Algebraic Concepts. National Science Foundation. \$988,250. 2007–2011.
- Olson, M., & Slovin, H. Mathematics Professional Development. Hawai'i Department of Education. \$30,400. 2008–2011.
- Olson, M. Kapālama Algebra Readiness in the Elementary School (KARES). Hawai'i Department of Education, Mathematics and Science Partnerships Program. \$450,000. 2009–2012.
- Olson, M., Olson, J., & Slovin, H. It's About Time: Technology Integrated in Mathematics Environments. US Department of Education. \$40,000. 2010–2011.
- Pottenger, F. M. Background Enrichment for Out-of-Field Teachers Assigned to Physics-based Courses. US Department of Education. \$27,248. 2010–2011.
- Pottenger, F. M. Pacific Education and Research for Learning Science (PEARLS). US Department of Health and Human Services–NIH. \$44,064. 2009–2011.
- Saka, S. M. Coordination & Administration of 2009 High School Hawai'i Youth Risk Behavior Survey. Hawai'i Department of Education. \$242,475. 2006–2011.
- Saka, S. M. To Coordinate and Administer The Hawaii Youth Risk Behavioral Study. Hawai'i Department of Education. \$50,000. 2011–2012.
- Saka, S. M. Hawai'i School Health Survey: Mods 6–8. Hawai'i Department of Health. \$143,000. 2011–2012.
- Scott, N., & Nguyen, T. T. Creating and Evaluating a Makerspace. National Science Foundation. \$176,352. 2009–2011.
- Scott, N. Makerspace Professional Development Workshop for Robotics. Friends of Hawai'i Robotics. \$100,850. 2010–2011.
- Slovin, H. Measure Up Project. University of Hawai'i Foundation. \$26,000. 2009–2011.
- Young, D. B. Standards Streamlining Project. Hawai'i Department of Education. \$1,376,574. 2008–2012.
- Young, D.B. Evaluation Services for the Kindergarten and Junior Kindergarten Programs of the Hawai'i Department of Education. \$254,900. 2008–2012.
- Young, D. B. Mizushima International Kimono Program. University of Hawai'i Foundation. \$141,100. 1998–2012.
- York, S. Hui A'o Mua: An ERF Project. UH Center on the Family. \$1,083. 2009–2012.
- Zenigami, F. Developing Algebra Resources for Teaching. Hawai'i Department of Education. \$450,000. 2009–2012. (Original PI Gilbert, M., 2009–2010).

PRESENTATIONS

- Berg, K. F. (2011, February). *Interstate Compact on Educational Opportunity for Military Children*. Invited presentation at the Hawai'i Joint Interservice Regional Support Group (HJIRSG), Hickam AFB, HI.
- Berg, K. F., Young, D. B., Brandon, P. R., & Nguyen, T. T. (2011, January). *Research, development, and use of a professional development design guide for educators*. Presented at the Hawai'i Educational Research Association Conference, Honolulu.
- Brandon, P. R., Harrison, G. M., & Lawton, B. E. (2011, November). *Intraclass correlation coefficients and effect sizes for school-randomized experiments*. Presented at the annual meeting of the American Evaluation Association, Anaheim, CA.
- Brandon, P. R., Lawton, B. E., & Harrison, G. (2011, April). *Development and validation of the Interest-in-the-Arts Questionnaire*. Presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Brennan, C. A. (2011, March) *Concept mapping with young learners*. Presented at the National Science Teachers Association Annual Conference, San Francisco, CA.
- Brennan, C. A. (2011, March) *The multiple dimensions of scientific inquiry in the preK–12 school setting*. Presented at the National Science Teachers Association Annual Conference, San Francisco, CA.

Brennan, C. A., & Bock, J. (2011, October). *Is it them? Or, are you not asking the right questions?* Presented at the Hawai'i Association for the Education of Young Children 2011 Early Childhood Conference, Honolulu.

Brennan, C. A., & Bock, J. (2011, November). *Exploring the importance of asking effective questions in instructional conversations with preschool children to help them develop their inquiry skills.* Presented at the National Association for the Education of Young Children Annual Conference, Orlando, FL.

Brennan, C. A., & Davis, B. (2011, March). *The outdoor class study area, an integrated learning experience.* Presented at the National Science Teachers Association Annual Conference, San Francisco, CA.

Dowdell, E. B., & Nguyen T. T. (2011, May). *Sexting, cyberbullying and risk taking: Results from student surveys.* Invited presentation at the National Strategy Conference on Combating Child Exploitation, San Jose, CA.

Fukunaga, L. L., & Brandon, P. R. (2011, November). *Findings on stakeholder involvement: A review of empirical studies of stakeholder involvement in evaluation.* Presented at the annual meeting of the American Evaluation Association, Anaheim, CA.

Kaupp, L. (2011, October). *Earth, moon, and tides: An inquiry approach, a kinesthetic model.* Presented at the Hawai'i Science Teachers Association Fall Conference, Honolulu.

Lai, M. K. (2011, January). *Some Hawai'i results from W. K. Kellogg initiatives.* Presented at the Hawai'i International Conference on Education, Honolulu.

Lai, M. K. (2011, August). *States' rights in the United Nations Declaration on the Rights of Indigenous Peoples' should not be privileged over indigenous people's rights.* Presented at the Pacific Circle Consortium Conference, Auckland, New Zealand.

Lai, M. K. (2011, September). Discussant for Stafford Hood's plenary presentation at the annual meeting of the Hawai'i-Pacific Evaluation Association, Honolulu.

Lai, M. K. (2011, September). Session chair, *Evaluation-related experiences of graduates of the University of Hawai'i at Mānoa's Educational Psychology doctoral program.* Presented at the annual meeting of the Hawai'i-Pacific Evaluation Association, Honolulu.

Lai, M. K. (2011, November). The United Nations Declaration on the Rights of Indigenous Peoples: *Directly & strongly related to evaluation.* Presented at the annual meeting of the American Evaluation Association, Anaheim, CA.

Lemus, J. D., Duncan Seraphin, K., Veary, K., & Coopersmith, A. (2011, December). *Integrating Western and traditional ways of knowing in the communicating ocean sciences courses at University of Hawai'i.* Presented at the American Geophysical Union Conference, San Francisco, CA.

Liebengood, F. D., Ayala, P. L., Palma Elmore, M. Mark, L., & Nguyen, T. T. (2011, April). *Sexting, cyberbullying, identity theft, digital copyright and misinformation: A snapshot of a 2010 Hawai'i survey.* Presented at the 2011 Technology, Colleges and Community Online Conference.

Liebengood, F. D., Ayala, P. L., Mendoza, C., & Nguyen, T. T. (2011, January). *Internet safety issues, a broad perspective in Hawai'i.* Presented at the Hawai'i Educational Research Association Conference, Honolulu.

Nguyen, T. T. (2011, April). *Considering faculty readiness for digital safety in schools.* Presented at the 2011 Technology, Colleges and Community Online Conference.

Nguyen, T. T. (2011, August). *Digital ethics: Global considerations from a US perspective.* Presented at the Pacific Circle Consortium Conference, Auckland, New Zealand.

Nguyen, T. T. (2011, June). *Is your school ready to model and promote digital citizenship?* Invited keynote address at Punahou Brain Symposium, Honolulu, HI.

Nguyen, T. T. (2011, September). *Multimedia juvenile victimization: Insights into youth behavior to help law enforcement.* Invited presentation at Hawai'i State Law Enforcement Officers Association Conference, Kona.

Nguyen, T. T. (2011, March). *Multimedia juvenile victimization: School faculty perspectives about youth behavior.* Presented at the International Conference of the Society for Information Technology & Teacher Education, Nashville, TN.

Nguyen, T. T. (2011, September). *School faculty perspectives and readiness for digital citizenship and Internet safety.* Invited presentation at Bukkyo University International Conference, Honolulu, HI. (Paper available in English and Japanese)

Nguyen, T. T., & Jumawan, F. V. (2011, October). *Online learning community development expectations: A science story.* Presented at 2011 World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education, Honolulu, HI.

Nguyen, T. T., Liebengood, F. D., & Ayala, P. L. (2011, April). *Digital citizenship: Cyberbullying, sexting, & online sharing, an empirical study of student awareness.* Poster presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Olson, J., & Olson, M. (2011, August). *Examining implementation of formative assessment in networked mathematics classrooms from multiple perspectives.* Presented at the Pacific Circle Consortium Conference, Auckland, New Zealand.

Olson, J., & Olson, M. (2011, April). *Why is learning about formative assessment in a networked classroom contagious?* Presented at the National Council of Supervisors of Mathematics Annual Meeting, Indianapolis, IN.

Olson, J., Olson, M., & Brendan, B. (2011, February). *Bringing it all together: Pedagogy, curriculum, Nspire and Google Education.* Presented at the Teachers Teaching with Technology (T3) International Conference, San Antonio, TX.

Olson, J., Olson, M., & Gilbert, M. (2011, March). *NTLI Fellows Symposium: The nexus between formative assessment and technology in networked classrooms. What have we learned?* Presented at the International Conference of the Society for Information Technology & Teacher Education, Nashville, TN.

- Olson, J., Olson, M., & Gilbert, M. (2011, March). *The nexus between formative assessment and technology in networked classrooms. What have we learned?* Presented at the Association of Mathematics Teacher Educators Annual Meeting, Irvine, CA.
- Olson, J., Olson, M., La, T., Oberding, T., & Chester, A. (2011, January). *A four-phase analysis of cultural and gender-related differences in communication between parents and children.* Presented at the Hawai'i Educational Research Association Conference, Honolulu.
- Olson, J., Zenigami, F., Olson, M., & Leake, B. (2011, February). *Calculator summer session to develop number sense, data analysis and probability concepts.* Presented at the Hawai'i Council of Teachers of Mathematics and Teachers Teaching with Technology (T3) Regional Meeting, Honolulu.
- Olson, M., & Olson, J. (2011, January). *Comparison of changes in mathematical content knowledge for teaching of middle grades teachers in a two-year research project to examine effects of two professional development models for implementing formative assessment in networked classrooms.* Presented at the Hawai'i International Conference on Education, Honolulu.
- Olson, M., & Olson, J. (2011, January). *Effects of two professional development models for implementing formative assessment in networked classrooms on mathematical content knowledge of middle grades teachers.* Presented at the Hawai'i Educational Research Association Conference, Honolulu.
- Olson, M., Olson, J., & La, T. (2011, January). *Case studies of teachers' implementation of formative assessment in a networked classroom.* Presented at the Annual Hawai'i International Conference on Education, Honolulu.
- Olson, M., & Zenigami, F. (2011, January). *A study of the process and outcomes of an educative curriculum materials component in the first year of a three-year school-wide professional development model to enrich teacher mathematical and content knowledge.* Presented at the Hawai'i Educational Research Association Conference, Honolulu.
- Olson, T., & Olson, M. (2011, January). *Comparing preservice teachers view of the importance of understanding fractions with their ability to adequately explain solutions to word problems involving fractions.* Presented at the Hawai'i International Conference on Education, Honolulu.
- Olson, T., Olson, M., & Sjostrom, M. P. (2011, January). *Examining explanations provided in solving worded fraction problems: Comparing the thinking of pre-service teachers to those of students in grade five.* Presented at the Hawai'i Educational Research Association Conference, Honolulu.
- Philippoff, J., Parisky, A., Degnan, K., Papini Warren, D., & Duncan Seraphin, K. (2011, January). *Island Energy Inquiry Professional Development: Content enrichment and pedagogical approaches to teaching about energy sustainability.* Presented at the Hawai'i International Conference on Education, Honolulu.
- Pottenger, F., Brandon, P., & Duncan Seraphin, K. (2011, January). *Application of a theoretical model of modes of inquiry to a science professional development project and its evaluation.* Presented at the Hawai'i Educational Research Association Conference, Honolulu.
- Pottenger, F. (2011, January). *Special workshop: Education Laboratory—Teaching science as inquiry.* Presented at the Hawai'i International Conference on Education, Honolulu.
- Pottenger, F., Redmond, J., Feldman, A., Kaupp, L., & Klemm, E. B. (2011, March). *Background enrichment for out-of-field teachers teaching physics-based courses.* Presented in UHM PHY 399 course for mentor teachers, Honolulu, HI.
- Saka, S. (2011, November). *Use of incentives to increase participation.* Presented at the annual meeting of the American Evaluation Association, Anaheim, CA.
- Sandgren, A., Olson, M., Hartweg, K., Coutts, D., Logan, L., & Garza, A. (2011, March). *Northwest Illinois Math & Science (NIMS) Partnership: A longitudinal integrated math/science project, 2004–2011.* Presented at the United States Department of Education MSP Regional Conference, San Francisco, CA.
- Scott, N. G., Tokuhama, R., Gill, K., & Nguyen, T. T. (2011, August). *An introduction to the Makery Cloud and an invitation to participate in ongoing Pacific-wide research and implementation project.* Presented at the Pacific Circle Consortium Conference, Auckland, New Zealand.
- Scott, N. G., Tokuhama, R., Gill, K., & Nguyen, T. T. (2011, January). *The Makery.* Presented at the Hawai'i International Conference on Education, Honolulu.
- Shaffer, S., Young, D. B., Hannahs, M., Lipscomb, A. L., & Rodenhurst, R. (2011, September). *Young children in museums.* Presented at the Western Museums Association Annual Conference, Honolulu, HI.
- Tomita, M. K., & ULS Project Pono. (2011, September). *ULS garden & sustainability initiatives.* Presented at the 3rd Annual Hawaii Green Schools Symposium, Ewa Beach, HI.
- Tomita, M. K., & ULS Project Pono. (2011, September). *ULS Project Pono.* Poster presented at the Schools of the Future Conference, Honolulu, HI.
- Venenciano, L. (January 2011). *Examining factors that effect algebra readiness.* Presented at the Hawai'i Educational Research Association Conference, Honolulu.
- Venenciano, L., & Yagi, S. (February 2011). *Math Teachers' Circle of Hawai'i, for math's sake!* Presented at the Hawai'i Council of Teachers of Mathematics Annual Conference, Honolulu.

Ward, L., & Chun, M. N. (2011, August). *Hearing for a deeper understanding of indigenous knowledge: The things we learned from publishing indigenous material*. Presented at the Pacific Circle Consortium Conference, Auckland, New Zealand.

Yager, R. E., Schmidt, D. L. (coordinators), & ESP authors (including Duncan Seraphin, K.). (2011, March). *Exemplary Science Programs (ESP): Meeting the reform features from the National Science Education Standards. ESP: Science Teaching and Learning as collaborative experiences*. Presented at the National Science Teachers Association Annual Conference, San Francisco, CA.

Yin, Y., Brandon, P., Olson, J., Slovin, H., & Olson, M. (2011, April). *Comparing the effects of two two-year formative assessment professional development models*. Presented at the annual meeting of the National Council of Teachers of Mathematics, Indianapolis, IN.

Yin, Y., Brandon, P., Olson, J., Slovin, H., & Olson, M. (2011, April). *Comparing the effect of two formative assessment professional development models*. Presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

York, S. E., & Lai, M. K. (2011, November). *A method for creating simple, inexpensive and valid comparison groups*. Presented at the annual meeting of the American Evaluation Association, Anaheim, CA.

Young, D. B. (2011, June). *Designing professional development for educators*. Invited presentation at the National Geographic Workshop on Professional Development and Instructional Materials, Alexandria, VA.

Young, D. B. (2011, April). *Evaluation services for the kindergarten and junior kindergarten programs of the department of education*. Presented at the Hawai'i State Early Learning Council, Honolulu.

Young, D. B. (2011, July). *Professional development: Past, present, and future*. Invited presentation at Argosy University, Honolulu.

Young, D. B., Berg, K. F., Brandon, P. R., & Nguyen, T. T. (2011, January). *Research, development, and use of a professional development design guide for educators*. Presented at the Hawai'i Educational Research Association Conference, Honolulu, HI.

Young, D. B., Brandon, P. R., Oshiro, E., Brennan, C. A., Slovin, H., & Berg, K. (2011, August). *Development and application of instructional materials selection criteria for elementary and secondary schools*. Presented at the Pacific Circle Consortium Conference, Auckland, New Zealand.

Young, D. B., Nguyen, T. T., Brandon, P. R., & Berg, K. F. (2011, January). *Research, design, and demonstration of a model for designing and developing professional development for educators*. Presented at the Hawai'i International Conference on Education, Honolulu.

Zenigami, F., & Olson, M. (2011, January). *Examining the educative curriculum materials component in the first year of a three-year school-wide professional development model to enriching teacher mathematical and pedagogical content knowledge*. Presented at the Hawai'i International Conference on Education, Honolulu.

Zenigami, F., Olson, M., & Sakumoto, A. (2011, April). *One school's story: Rethinking how mathematics is taught and learned*. Presented at the annual meeting of the National Council of Teachers of Mathematics, Indianapolis, IN.



Paul Brandon was named the 2011 Research on Evaluation Distinguished Scholar by the American Educational Research Association (AERA) at their annual meeting in New Orleans. AERA strives to advance knowledge about education, to encourage scholarly inquiry related to education, and to promote the use of research to improve education and serve the public good.

Brandon has published several evaluation instruments that have been developed and validated in projects, has won two other AERA awards over the years, is the co-editor of the Exemplars section of the *American Journal of Evaluation*, is co-author of a book on evaluation, and regularly serves as a consultant on developing research and evaluation projects. He is an active member of the graduate faculty of the College of Education's Department of Educational Psychology. Most recently, Brandon was appointed to serve as editor-in-chief of the American Evaluation Association's topical journal *New Directions for Evaluation* for a three-year term beginning in January 2013.

CRDG Organization

College of Education

Christine Sorensen, *Dean*

Curriculum Research & Development Group

Donald B. Young, *Director*

Kathleen F. Berg, *Associate Director*

Helen Au, *Assistant Director, Marketing
Publication Services*

University Laboratory School

Keoni Jeremiah, *Principal*

Peter Estomago, *Vice-Principal*

Tracy Teixeira, *Dean of Students*

Miki Tomita, *Dean of Curriculum
and Instruction*

STAFF

Abhari, Maryam

Mathematics (Graduate Assistant)
BS 2006, BS 2010, Hawai'i

Afaga, Lorna

Program Research and Evaluation
BA 1977, MPH 1981, Hawai'i

Asato, Darrell

Marketing and Publication Services
BFA 1979, Hawai'i

Au, Helen

Marketing and Publication Services
BBA 1993, MEd 2006, Hawai'i

Ayala, Peter

Learning Technologies (Graduate
Assistant)
AA 1984, BA 1985, District of
Columbia; MEd 2008 Marygrove
College

Baldwin, Marybeth

Standards Streamlining Project
BA 2000, Seattle; MA 2003, Portland

Berg, Kathleen F.

Administration
BEd 1973, PD 1973, MEd 1980, PhD
1992, Hawai'i

Bodily, Michelle

Literacy and Hawaiian Education
BA 2010, Hawai'i

Brandon, Paul

Program Research and Evaluation
BS 1970, Portland State; MEd 1978,
PhD 1983, Hawai'i

Brennan, Carol Ann

Science, Early Childhood
Education

BA 1965, Catholic University of
America; MS 1984, Nebraska; EdD
1996, Hawai'i

Brown, Boyce

Standards Streamlining Project
BA 1994, UC Berkeley; MEd 2003, MA
2004, Hawai'i

Cagaoan, Emma

Administration
AS 1980, Kapi'olani Community
College

Capen, Stephanie

Mathematics (Graduate Assistant)
BS 2010, Eastern Nazarene College

Chester, Allison

Mathematics (Graduate Assistant)
BA 2008, Sacred Heart University

Degnan, Katherine

Science (Graduate Assistant)
BS 2006, Roger Williams University

Delise-Steinke, Danielle

Science (Graduate Assistant)
BA 2005, UC Santa Cruz

Dunn, Hugh

Literacy and Hawaiian Education
BEd 1990, MEd 1999, Hawai'i

Fujii, Alycia

Marketing and Publication Services
BA 1996, Hawai'i

Fukata, Laverne

Administration
BA 1976, Hawai'i

Gill, Kevin

Learning Technologies

Hamasaki, Brian

Administration
BBA 1997, Washington State; MBA
2004, Hawai'i

Harpstrite, James

Social Studies
BA 1963, Colorado; MA 1967, Hawai'i;
PhD 1971, Michigan State

Harrison, George

Program Research and Evaluation
BA 1994, UC Santa Cruz; MA 2002,
Hawai'i

Hashimoto, Valerie

Science
BS 1993, Hawai'i Pacific; MAEd 2003,
Phoenix

Hayden, Marcus

Administration
BAS 2001, MBA 2007, Hawai'i

Higa, Terry Ann

Program Research and Evaluation
BEd 1977, MEd 1978, PD 1984, MEd
1994, PhD 2005, Hawai'i

Inouye, Byron

Learning Technologies
BFA 1993, Hawai'i

Jumawan, Francisco
 Learning Technologies (Graduate Assistant)
 AS 1991, Electronics Institute; BS 2006, Med 2011, Hawai'i

Kaupp, Lauren
 Science
 BS 2003, Maryland-Baltimore County; MS 2005, Hawai'i

Kido, Lillian
 Literacy and Hawaiian Education
 BA 1971, Hawai'i

Klemm, E. Barbara
 Science
 BA 1964, Ohio Wesleyan; MEd 1972, EdD 1982, Hawai'i

La, Thuy
 Mathematics
 BA 1997, Hanoi University of Pedagogy No. 2; MA 2005, PhD 2011, Hawai'i

Lai, Morris
 Literacy and Hawaiian Education
 BS 1965, Stanford; MA 1967, Hawai'i; PhD 1972, UC Berkeley

Lawton, Brian
 Program Research and Evaluation
 BA 2001, Nevada; MEd 2005, Hawai'i

Lee, Aaron
 Marketing and Publication Services
 BFA 1999, Hawai'i

Leong, Jaret
 Marketing and Publication Services

Lewis, Jeanine
 Administration
 BS 1993, CSU-Chico; MA 2003 San Francisco State

Liebengood, Fawn
 Learning Technologies
 BA 2010, Hawai'i

Lindberg, Mark
 Marketing and Publication Services
 BMus 2008, Hawai'i

Lurie, Matthew
 Science (Graduate Assistant)
 BS 2005, UCLA; MS 2010, Hawai'i

Mark, Lauren
 Learning Technologies (Graduate Assistant)
 BS 2001, Washington; MA 2009, Hawai'i

Nakama, Robert
 Information Technology
 BBA 2006, Hawai'i

Nakamura, Aric
 Program Research and Evaluation
 BA 2004, Hawai'i

Narimasu, Bert
 Marketing and Publication Services
 BA 1976, MFA 1993, Hawai'i

Nguyen, Thanh Truc
 Learning Technologies
 BA 1996, MEd 2000, Hawai'i; EdD 2007, Southern California

Oberding, Thomas
 Mathematics
 BS 1998, New Mexico; MS 2004, Texas A&M-Corpus Christi; PhD 2010, Hawai'i

Olson, Judith
 Mathematics
 BS 1968, Valley City State; MST 1981, Wyoming; EdD 1985, Oklahoma State

Olson, Melfried
 Mathematics
 BS 1968, Valley City State; MS 1972, Arkansas; EdD 1975, Oklahoma State

Oshiro, Elliot
 Program Research and Evaluation
 BA 1981, PD 1987, Hawai'i

Palma-Elmore, Mericia
 Learning Technologies (Graduate Assistant)
 BA 1997, Houston

Philippoff, Joanna
 Science
 BA 2002, Delaware; MS 2011, Hawai'i

Pottenger, Francis
 Science
 BS 1951, Otterbein; MEd 1957, Xavier; MS 1964, New Mexico Highlands; PhD 1969, Claremont Graduate School

Pottenger, Larma
 Editorial
 BA 1950, Otterbein

Ramos, Rosemarie
 Clerical
 AS 1976, St. Ferdinand

James Harpstrite Retires



James Harpstrite joined CRDG in 1976 as a social studies teacher and curriculum developer where he

directed curriculum development and professional development efforts including the Hawai'i Multicultural Awareness Project, the Consumer Education Project, and the Energy Conservation Project. He contributed to the Civic Education for the Information Age (CEIA) joint curriculum development project under the direction of Frank Pottenger, which is now incorporated into the school curriculum in the Krasnoyarsk, Barnaul, and greater Moscow regions in Russia.

In 1980, Harpstrite won the National Youth Involvement Award from the National Council of Juvenile and Family Court Judges for his work on the Hawai'i Multicultural Awareness Project. His leadership in the Energy Conservation Project was on the cutting edge in the 1980s when he created do-it-yourself solar water heating kits for use in Hawai'i and throughout the Pacific.

In Memoriam

Redmond, James
Science
BA 1968, SUNY at Buffalo; MAEd
1979, Pepperdine

Romero, Gary
Information Technology
BS 1986, DeVry

Sagaysay, Lolito
Program Research and Evaluation
BBA 1982, Hawai'i

Saka, Susan
Program Research and Evaluation
BS 1980, BBA 1980, MEd 1994, Hawai'i

Scarlett, Thomas
Science
BEd 1973, MEd 1980, MEd 1997, PhD
2008, Hawai'i

Schlosser, James
Standards Streamlining Project
BA 1970, California State; MA 1994,
Hawai'i; PhD 1998, BYU Provo

Scott, Neil
Learning Technologies
BE 1970, DSc 2006, Canterbury
University

Seefeld, Ryan
Marketing and Publication Services
BBA 2011, Hawai'i

Seraphin, Kanesa
Science
BS 1999, Cal Poly; MS 2004, PhD 2005,
PBSCE 2008, Hawai'i

Shimabukuro, Erin
Administration
BEd 2001, Hawai'i

Shiraishi, Jana
Marketing and Publication Services
BA 2011, Hawai'i

Shishido, Wayne
Marketing and Publication Services
BFA 1972, Hawai'i

Shon, James
Standards Streamlining Project
BA 1969, Syracuse; PhD 2001, Hawai'i

Slovin, Hannah
Mathematics
BA 1966, Pennsylvania; MEd 1970,
Temple; EdD 1996, Hawai'i

Subedi, Lilette
Literacy and Hawaiian Education
BFA 1977, BA 1977, MA 1989, Hawai'i

Tassill, Leah
Standards Streamlining Project
BA 2011, Hawai'i

Thiel, Mark
Marketing and Publication Services
BA 1999, Evergreen State College

Tokuhama, Raemi
Learning Technologies
BS 2006, Portland State



Leon H. Burton, professor emeritus of the University of Hawai'i at Mānoa's College of Education, passed away on December 23, 2011, at the age of 81. Burton helped start the Hawai'i Curriculum Center, which became the Curriculum Research & Development Group (CRDG) in 1969 and served CRDG for over 27 years, creating many widely recognized curricula in music and early childhood education. His *Comprehensive Musicianship*

Program for grades K–6 continues to be used in Hawai'i's schools today. In 1996, Burton, along with Diane Witt, completed *Integrated Developmental Experiences for Active Learning (iDEAL)*, a totally integrated kindergarten program. He and Witt also collaborated to produce *Ukulele: A Comprehensive Approach* (1989) and *Class Guitar: A Comprehensive Approach* (1981). Always focused on the learning of young children, Burton authored *MusicPlay*, *ArtsPlay*, *Pathways*, and (with Marlene Hapai) *BugPlay*. Burton was active within both the academic and music communities, serving in many education policy organizations and travelling extensively in his role as a music educator. He also played with the Honolulu Symphony Orchestra for more than six decades. His impact on music and arts education continues locally and worldwide.

Towata, Carolyn
English
BEd 1967, 5-yr Diploma 1968, MEd
1968, Hawai'i

Vallin, Lisa Michaela
Program Research and Evaluation
(Graduate Assistant)
BA 2006, MA 2008, San Francisco
State

Venenciano, Linda
Mathematics
BA 1993, MAT 1994, Pacific; PhD
2011, Hawai'i

Ward, Lori
Editorial
BA 1983, Hawai'i; MNM 2002, Regis

Watts, Margit
Mānoa Partnerships
BA 1970, Michigan; MSW 1974, PhD
1989, Hawai'i

Yap, Mark
Information Technology
BA 2001, Hawai'i

York, Susan E.
Program Research and
Evaluation
BA 1992, MA 1994, MEd 2001, PBCSE
2007, Hawai'i

Young, Donald B., Jr.
Administration
BS 1968, MS 1969, SUNY; EdD 1986,
Hawai'i

Zenigami, Fay
Mathematics
BEd 1974, PD 1975, MEd 1975,
Hawai'i

Mahalo for your contributions

Mahalo to all those whose generous contributions throughout 2011 have enabled CRDG to continue its commitment to leadership, excellence, and innovation in improving preK–12 education. We are most appreciative.

Make a gift online through the University of Hawai'i Foundation website at <http://www.uhf.hawaii.edu>. Follow the prompts and direct your support to CRDG Director's Fund, account number 120–1520–4.

Send your check to

Attention: Mark Fukeda
University of Hawai'i Foundation/CRDG
Box 11270
Honolulu, HI 96828–0270

All contributions are tax deductible through the UH Foundation.



UNIVERSITY
of HAWAII®
MĀNOA

Curriculum Research & Development Group

1776 University Avenue

Honolulu, HI 96822-2463

Phone: (800) 799-8111 • (808) 956-4969

Fax: (808) 956-6730

Email: crdg@hawaii.edu

Web: www.hawaii.edu/crdg