President’s Message

Scott Powell, Kalakaua Middle School

Congratulations on the completion of another year. We have made to the end of the school year in spite of the many things required of teachers. You are to be congratulated.

For those teachers in the public schools we survived furlough Fridays and the salary cut that came with it. I am extremely proud and happy that so many of you attended the three opportunities for professional development offered but HCTM this year. Thanks goes out to all those who attended and I am hopeful we can get many more of your colleagues to attend next year.

I would like to take this opportunity to thank the board of the HCTM for a great year. You truly made a difference and you worked very hard to present excellent PD for the math teachers in Hawaii.

Finally I would like to welcome your new board for next year. The offices and officers are as follows:

President  Scott Powell
Vice President  David Furuto
VP-Elect/Conference Chair  Sean Moroney
Secretary  Fema Lee
Treasurer  Meryle Hirotsu
2-Year College  Jean Okumura
4-Year College  Linda Furuto
Membership Director  Debbie Kula
High School Director  Laura Nagata
Middle School Director  Sean Yagi
Elementary School Director  Stacie Kaichi-Imamura

I think that you will find this to be a very good and hard working group as well.

Have a great and well-deserved summer break and you will hopefully come back refreshed and ready for another great year.

Scott
Calendar of noteworthy events:

NCTM Annual Meeting
April 13-16, 2011 Indianapolis, IN

Have another event you think others in our community would like to know about? Feel free to submit interesting websites and articles as well!
Email ksakaguc@iolani.org.

Have a Suggestion?
In order to better serve you, HCTM needs your input. Do you have a suggestion for a future conference or mini-conference? If so, we’d like to hear from you. E-mail the corresponding director with your ideas – the sooner the better, so the board can start planning.

Spring Conference: Sean Moroney (smoroney@priorypride.net)
High School Director: Laura Nagata (laura.nagata@yahoo.com)
Middle School Director: Seanyelle Yagi (seanyelle_yagi@notes.k12.hi.us)
Elementary Director: Stacie Kaichi-Imamura (stacie_kaichi@notes.k12.hi.us)

Summer Professional Development Opportunity
Have you wanted to learn more about effectively using the graphing calculator in your classes? Do you have promising students who would enjoy being your "tech experts" in class? Are you a beginner with graphing technology in the classroom and seeking some training on getting started? Then this workshop is for you.

Once again, the Summer Institute 2010 offers a week of training on teaching and learning the graphing calculator. And this year, there is an option for teachers to include students in the training opportunity. See the accompanying flyer for details. Space is still available, but limited, so get your reservations in now.

Things to do:
Please notify Debbie Kula, Membership Director, dkula@sacredhearts.org if:
1. any information is incorrect;
2. you’d like to help HCTM “Go GREEN” and receive your newsletter via email. Include your name and email address.

Join NCTM and Earn $$ for HCTM!
Join or renew your membership to the National Council of Teachers of Mathematics (NCTM) and earn money for HCTM at the same time. Be a part of the nation’s largest professional organization for mathematics teachers. Learn about the newest and latest findings in mathematics teaching. Share ideas with other mathematics teachers teaching grades Kindergarten through community college levels. Receive opportunities to learn new teaching strategies online or read about exciting new ideas in one of the many monthly publications put out by NCTM.

For more information, go to www.nctm.org/membership and join online. Indicate your affiliation with HCTM and NCTM will donate $5 for each renewal membership and $6 for each new membership! It's a win-win situation for you and HCTM.

Oahu Mathematics League
-Laura Nagata-
The 2009-2010 competition year has ended for the Oahu Mathematics League. With Lance Suzuki from Maryknoll as the President, the League finished another successful year with more than 400 students participating. The League runs three divisions – Varsity Group A, Varsity Group B and Junior Varsity.

The Varsity Group A schools can enter up to ten students per meet (with a maximum of seven Seniors.) Varsity Group B schools can enter up to six students per meet (with a maximum four Seniors.) A Junior Varsity team maxes out at four Freshmen and Sophomores. There were 25 schools participating in the League this year.

The top five schools for Varsity Group A (in order) were Iolani, Kamehameha, McKinley, Punahou and Mid-Pacific Institute. The top three schools for the Varsity Group B were Hanalani, St. Louis and Sacred Hearts. The top three Junior Varsity Teams were from Iolani, McKinley and Punahou. The team that was most improved its League standing since last school year was Castle.

If you are interested in joining the League, please email Lance Suzuki at Maryknoll School (lance.suzuki@maryknollschool.org) or you can contact Laura Nagata (laura.nagata@yahoo.com) for more information.
The 32nd Annual State Mathematics Championships or State Math Bowl XXXII was hosted by Maui High School, Brigham Young University Hawaii, and the Hawaii Council of Teachers of Mathematics at Maui High School in Kahului, Maui on Saturday, May 01, 2010. Every student and each school had assiduously worked in math competitions during the school year to prepare for this challenging, culminating competition. Thanks do go to Clarice Lee, Michele Sera, and Maui High School for being such wonderful on-site hosts.

In Division A (small schools), Damien Memorial, Hanalani Schools, Hawaii Baptist Academy, Kahuku High School, Kamehameha - Hawaii, Maryknoll, Sacred Hearts Academy, and Saint Louis were competing for the championship. Saint Louis took the lead from the first problem, and did lead throughout the entire contest to capture first place in Division A (small schools). In second place was Maryknoll, 3rd was Sacred Hearts Academy, 4th was Hanalani.

For the 2009-2010 school year, Saint Louis, the State Team Champion for Division A (small schools), was led by Math Team Coach: Samnang Se. Student team members were: Byunghee Chun*, Dong Kuk Huh*, Patrick Ma*, Kyung Tack Lee, and Matthew Lee.

In Division AA (large schools), Baldwin High School, Campbell High School, Iolani, Kamehameha - Kapalama, Maui High School, McKinley High School, Mid Pacific Institute, Mililani High School, Punahou, Roosevelt High School, Waiakea High School, and Waipahu High School were competing for the top spot. The contest was tight, because even at the intermission, several of the preceding schools could have won. However, Iolani did not falter once, and did achieve a perfect score in all 14 challenges. Iolani captured first place with Kamehameha Schools, Kapalama in second, Mililani High School in third, and Waiakea in fourth.

For the 2009-2010 school year, Iolani, the State Team Champion for Division AA, had as Math Team Coach: Michael Park. Student team members were: Anders Lee, Dustin Shigaki, and Richard Chang.

An Awards Presentation will be done by Mayor Mufi Hannemann in the Mayor’s Office to the State Team Champions in Mathematics.
The AFCEA Educational Foundation will offer scholarships of $5,000 to students actively pursuing an undergraduate or graduate education degree for the purpose of teaching STEM (Science, Technology, Engineering or Mathematics) subjects at a U.S. middle or secondary school.

At least 35 scholarships will be awarded annually. The scholarships are made possible by a generous contribution from AFCEA International.

Eligibility: Undergraduate candidates must be a U.S. citizen, attending an accredited college or university in the United States as a traditional student and majoring in secondary education for the purpose of teaching STEM subjects in a U.S. middle or secondary school. Undergraduate applications will be accepted from current sophomore and junior students - minimum second-year students please. Graduate candidates must be a U.S. citizen and currently enrolled in at least two (semester-equivalent) classes at an accredited U.S. college or university.

A minimum overall GPA of 3.0 is required.

In addition to the STEM Teacher Scholarship, each graduating AFCEA STEM Teacher Scholar will receive a $1,000 AFCEA Science Teaching Tools grant per year for 3 years, on the condition they remain teaching a STEM subject. Grants can be used for a variety of purposes including: purchase of STEM-focused classroom supplies, purchase of hardware/software, or to support STEM extra-curricular activities and clubs.

Applications Deadline: June 10
http://www.afcea.org/education/scholarships/undergraduate/TeachersScholarship.asp

Questions? Email Norma Corrales
scholarship@afcea.org

About AFCEA International and the AFCEA Educational Foundation

AFCEA International, established in 1946, is a non-profit membership association serving the military, government, industry, and academia as an ethical forum for advancing professional knowledge and relationships in the fields of communications, IT, intelligence, and global security. For more information, visit www.afcea.org.

The AFCEA Educational Foundation works closely with the chapters, raises funds, and provides leadership, guidance, and rewards to help motivate more students to become scientists and engineers. The Foundation is an independent 501(c)(3) organization dedicated to providing educational incentives, opportunities, and assistance for students and teachers in the science, technology, engineering, and mathematics disciplines (broadly known as STEM). In 2009 the AFCEA Educational Foundation, together with AFCEA Chapters, awarded more than $1.5M in scholarships and grants. The AFCEA Educational Foundation has been granting scholarships and grants to college students in STEM disciplines for 30 years. Working with AFCEA local chapters, the Foundation’s Science Teaching Tool program annually reaches 200+ teachers and an estimated 50,000+ students in grades kindergarten through high school.
Math Teachers/Students:

Summer Institute 2010: Teaching/Learning Mathematics Using the Graphing Calculator, for Math Teachers and Their Students*

Instructor: Sister Alice Hess, L.H.M., Ph.D.**

The Gloria Kekukahiko Silvira Memorial Scholarship Fund***, partnering with the State of Hawaii Department of Education and Texas Instruments Teachers’ Teaching with Technology, sponsors the Summer Institute 2010 with the option for professional development service hours or Graduate Credits offered by Webster University for the five-day session; certificates of completion available for the three-day sessions.

Kailua High School TC Portable 451 Ulumanu Drive
July 12-16, 2010, 8:30 - 3:30 p.m.

* Teachers, reward a deserving and motivated student by having them attend this summer experience. Imagine your student participating in this enriching environment, and then returning to class motivated to do better and help others. Teachers may bring several students, space permitting. Students should have earned credit in Algebra Two and would like to continue taking math courses. Preference will be given to juniors and seniors who attended furlough designated schools.

The first twenty students who register with their teacher(s) for the five day course will receive a gently used TI-84 Plus Silver Edition graphing calculator. Students must register and deposit 50% of the adult fee, which will be totally refunded upon completion of the institute. Teachers must arrange for appropriate required permission forms.

Participants will be shown how to link their calculators to computers and use the internet to discover math lessons and programs.

July 12 & 13 for Novice Users: These two days will be devoted to acquainting beginners with the graphing, statistics, tables, linking and parametric capabilities of the TI-83-84. It is expected that participants have little or no experience in the use of the graphing calculator. However, even experienced users claim that they benefit from this introductory overview. True beginners should plan to attend the entire week.

July 14, 15, & 16: In line with NCTM’s Principles and Standards for School Mathematics, participants will experience a multitude of TI-83-84 based activities. The focus will be three fold:

1) the correct use of technology in the teaching and learning of Pre-Algebra, Algebra, Geometry, Pre-Calculus, and Statistics
2) the teaching of mathematics in the context of problem solving
3) the use of the graphing calculator as a tool for higher order thinking

Class size is limited to 28 participants with preference to “furlough Friday” teachers and students and to Pre-service Teachers in Training. For teachers, a deposit of $80 (for 2 days) or $200 (for 5 days) half of which will be refunded upon completion of the institute, is required to reserve a space; for students the deposit is $100 to reserve a space, all of which will be refunded upon completion of the five day institute. Checks are to be made payable to the Gloria Kekukahiko Silvira Memorial Scholarship Fund. Brown bag your own lunch/snacks. Register by mailing the form at the back and your check to the Gloria Kekukahiko Silvira Memorial Scholarship Fund, P.O. Box 605, Kaaawa, Hawaii 96730. For additional information, contact Janet Swift at swiftknig@aol.com or phone (808) 728-7183

The Summer Institute 2010 is a professional development program for intermediate to community college teachers of mathematics (and their students) who need help incorporating the use of handheld technology into the teaching and learning of mathematics. Current college students who are mathematics majors and working toward a teaching degree will benefit tremendously. Check with Director Janet Swift about the possibility of graduate credit &/or earning Professional Development credit hours.

***Registered as a tax free educational nonprofit corporation in the State of Hawaii and as a federal tax exempt public charity under USC section 501 (c)(3), effective September 25, 1986.
Registration Form
Summer Institute 2010: Teaching Mathematics Using the Graphing Calculator, for Math Teachers and Their Students
July 12-16, 2010
Kailua High School TC Portable

One form per person. Form can be photocopied.

Intent to Register with Webster University for Graduate Credit – Encircle: Yes No
(Note: 2 semester credits are available for this course - please make inquiries regarding transferability of credits before registering). Do not send tuition; tuition will be collected after the first day of the course. Checks will be made out to Webster University.

Teachers: Checks for $80 (for 2 days) or $200 (for 5 days) half of which will be refunded upon completion of the institute should be written to the Gloria Kekukahiko Silvira Memorial Scholarship Fund. Teachers bringing students are responsible for completion of appropriate required permission forms. Students: send checks for $100 to reserve a space, all of which will be refunded upon completion of the institute. Students accompanying teachers are responsible to get parental signatures on required permission forms.

Name: __________________________________________________________

Address: _______________________________________________________________________

City: ___________________________ State: __________________ Zip:________________________

Day Phone: ___________________ Evening Phone: __________________________

e-mail address: ________________________________________________________________

Courses you teach: _____________________________________________________________

School: __________________________

Please register me for (encircle): The entire week – July 12-16, 2010

July 14, 15, 16 only (True beginners need to attend the entire week.)

Circle the number that best describes your TI-83/84 calculator experience.

1 2 3 4

New User Experienced User

Mail this registration form and your deposit check of $80 or $200 to:

The Gloria Kekukahiko Silvira Memorial Scholarship Fund
attn.: Janet Swift
P.O. Box 605
Kaaawa, Hawaii 96730

**Sister Alice Hess, I.H.M., Ph.D. has taught secondary mathematics for 46 years, currently at Archbishop Ryan High School, Philadelphia. A national Presidential Awardee, Tandy Technology Scholar, and two-time Mary Dolciani Scholarship recipient, she has published numerous articles in professional journals and has conducted in-service presentations nationwide on subjects ranging from algebra to calculus. She is a certified Teachers Teaching with Technology Instructor, AP Statistics Exam Reader and College Board Consultant. Sister Alice was chosen by USA Today in 2003 as one of the top 20 educators in the nation, honored by the National Catholic Educational Association for years of Distinguished Service to Catholic Education, received the Siemens Award for Excellence in Teaching Advanced Placement Mathematics and most recently was selected as one of five teachers in the nation to receive the U.S. Department of Education 2008 American Star of Teaching Award.**
ENJOYMENT IN THE MATHEMATICS CURRICULUM
Dr. Marlow Ediger

Wholesome attitudes are salient to develop in any curriculum area, mathematics being no exception. Many pupils like mathematics; others may not develop this quality attitude. The attitudinal dimension is salient to develop in school and in society. Higher accomplishments are then possible. With good attitudes, achievement in mathematics can be optimized.

Too frequently, mathematics may become routine and drudgery. This certainly need not be so. A motivated teacher may select and implement those activities which provide enjoyment at the same time objectives of instruction are being acquired. Enjoyment and achievement of objectives need not be separated from each other, but can well become integrated entities (Ediger, 2006).

The Affective Dimension in Teaching and Learning

The pupil is the focal point of instruction. He/she needs to perceive mathematics as being positive, useful, and good. The learner experiences and reaches conclusions. Hopefully, the learner will develop positive feelings of wanting to learn more mathematical content and skills. These inward feelings should result. The teacher designs and implements what was planned for teaching and learning experiences. The interest factor must be thoroughly considered with the following in mind:

* providing a variety of activities such as those requiring a hands on approach with real objects in doing the four basic operations of addition, subtraction, multiplication, and division
* emphasis also being placed upon visual representations of reality including pictorial forms, computerized programs with illustrations, video tape, and power point slides, showing, for example, geometrical figures, plane and solid geometry, as well as calculations involving reasoning and problem solving. The writer when supervising university student teachers in the public schools observed an interesting lesson on geometry art for young children. The supervising teacher and the student teacher cut geometrical figures from different colors of construction paper. Pupils selected geometrical figures to portray people, buildings, among other items, on drawing paper. The products were posted on the bulletin board for viewing. Pupils had to name each figure as being a circle, square, triangle, rhombus, etc. Pupils from other classrooms came in to observe and comment on the geometry art project. Enthusiasm and interest were high.
* abstractions which indicate how the real and the pictorial may be represented numerically and used in school/society. For example, a picture graph was developed by pupils showing a photo of each in the month of birth. Other picture graphs were shown and discussed; pupils developed an understanding of why graphs are used to present data (See Kennedy and Tipps, 1991).

Interest factors involve wholehearted involvement by learners. Well planned lessons with appropriate use of teaching aids assist pupils in enjoying mathematics. The mathematics teacher’s modulated voice with proper stress of words, pitch within sentences, and juncture (pauses) attract learner attention to achieve objectives of instruction. Gestures should be positive and harmonize with deeds. The following personality traits need to be in the offing:

* politeness and respect
* caring and helpfulness
* positive attitudes toward teaching and learning
* feelings of excitement toward mathematics
* wanting to learn more about mathematical content
* willingness to work harmoniously with parents (See Brady, 2008).

If the teacher sequences learning opportunities, he/she must take care to have it be developmentally appropriate. If a pupil does not understand a mathematical process due to its difficulty, it might well hinder positive affective development whereas if it is too easy, then boredom might well set in. The mathematics teacher then has a problem in selecting learning opportunities which are developmentally appropriate. A pupil may attain a somewhat difficult learning through scaffolding whereby the teacher builds upon pupil knowledge possessed and then assists the learner to achieve the more complex mathematical understanding using cues, techniques, and experiences which help the pupil to achieve what formerly was too complex. Each step of learning, however, must be challenging and learner centered. The interests of pupils might well be cultivated through a challenging mathematical curriculum (See Cuban, 2008).

Adequate time, too, must be given to help pupils reflect upon what was learned. Metacognition emphasizes concepts pertaining to “thinking about thinking.” Thus, the pupil needs assistance to reflect upon past mathematical experiences. The teacher might demonstrate aloud how metacognition operates to retain and strengthen understandings acquired. What is not understood is brought to the forefront and provides opportunities for meaningful clarification and reteaching. With meaning attached to ongoing teaching and learning experiences, pupils understand subject matter taught. Pupils are then ready to build new facts, concepts, and generalizations based on previously understood content. Mastery of mathematical algorithms provides readiness to achieve new objectives of instruction. Indepth learning aids the pupil to understand, grow, accomplish, and achieve. Interest, too, is furthered with the pupil truly attaching meaning to subsequent learnings (Ediger, 2008).

(continued on next page)
Self efficacy is enhanced when teachers become increasingly knowledgeable of subject matter and skills. Confidence is then developed in the self. The mathematics teacher secures feelings of being able to teach and provide for pupils of different categories such as the gifted, English Language Learners, slow learners, and the mentally retarded. There is this feeling of being successful in teaching a variety of kinds of pupils. Each pupil needs to attain as optimally as possible.

To possess feelings of enjoyment, pupils, too, need to feel that purpose is involved in learning. Reasons are then accepted for achieving salient objectives of instruction. How might the mathematics teacher assist pupils to perceive purpose in learning?

- to indicate relevancy in an ongoing lesson. For example, when pupils are studying how to determine area, they need help to see practical uses which can be made of the concept. Memorization, alone, does not guide pupils to perceive purpose. They need to understand each sequential step of learning, as well as perceive uses which can be made in school and in society. Uses to be made in finding the area include measuring classroom size, length and width, to notice the size of carpet which needs to be installed. The number of square feet, for example, may be meaningfully made by marking off squares, one foot by one foot, in the classroom. Pupils may then count the number of squares. The number of counted squares may be compared with taking the length of squares times the width of the squares which then equals the area of the classroom. Concrete and life like experiences assist pupils to use numerical values to represent reality. Sequential learning and practicality are two concepts which provide readiness for future accomplishments. The teacher must observe to notice that each sequence is meaningful and understood, resulting in the ultimate purpose of the learning, to determine the area of square feet in the classroom.

- to encourage the use of games to interest learners in mathematics. Computerized games are intriguing to many pupils if they are developmentally appropriate. The writer when supervising university student teachers has observed many pupils playing math games via the computer. Intrinsically, these are motivating to learners. Pupils respond to a problem on the monitor and then receive immediate feedback as to it correctness.

Independently, the pupil may move forward sequentially on one or more games. Wholesome competition might also be brought in between opposing sides in attempting to be a winner. Computer programs may be used, also, as simulation, tutorial, drill and practice, and diagnostic/remediation. They need to be integrated into the regular mathematics curriculum (Ediger, 2009). Pupils, too, have been fascinated with teacher made mathematics games.

Here, the games are, ideally, aligned with the objectives in an ongoing unit of study. Order and sequence are built into each game, with enjoyment being a leading goal. Games assist pupils to review and rehearse previously acquired learnings. Active involvement of learners in gaming as well as in all learning activities is salient!

What to Avoid

Enjoyment, among others, must be a major goal for pupils to achieve in mathematics learning. Thus, there need to be pitfalls to avoid in the curriculum. The pitfalls include the following:

- criticism of pupils. Rather, what pupils do not understand should be clarified and appropriate learning activities used to remedy deficiencies.

- impatience. Too frequently, too much ground is being covered from basal textbooks in order to complete activities in a hurry, resulting in shallow learnings. Instead, a quality indepth sequence needs to be in the offering so that new subject matter taught is based on previously well understood facts, concepts, and generalizations.

- rudeness and rude comments. If pupils do not attain as well as desired, the teacher must not ridicule learners but needs to examine his/her own procedures of instruction. A variety of learning opportunities must be used to assist pupils to achieve, grow, and develop. Remedying deficiencies is needed to correct inaccurate learnings of pupils. This must be followed by using a developmental strategy of instruction.

- impatience. Too frequently, too much ground is being covered from basal textbooks in order to complete activities in a hurry, resulting in shallow learnings. Instead, a quality indepth sequence needs to be in the offering so that new subject matter taught is based on previously well understood facts, concepts, and generalizations.

References

Brady, Marion (2008), "Cover the Material---- Or Teach Children to Think, 65, (5), 64–67.
To become a member or renew membership fill out the application below and mail it in, or you can register and pay online at http://hctm.org

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Mail to: HCTM c/o Deborah Kula
Sacred Hearts Academy
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Honolulu, HI 96816

Membership year ends: August 31, 2010
Hawaii Council of Teachers of Mathematics

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