

Winning Public Support for Mathematics

BEFORE the writer launches into the topic of how public support is achieved for modern programs in mathematics in Hawaii, some enlightenment on the organization of the public school system in Hawaii is in order. Hawaii has the ninth largest school system in the nation. The school system is centralized—one Superintendent of Public Instruction, one Board of Education, one Personnel Division, one Business Office, and one salary schedule. There are four districts, headed by District Superintendents and Supervising Principals who work with the State Superintendent and his Curriculum Council. At each district level, there is a professional staff which works with teachers in implementing programs.

There is one program of studies but there is variance in terms of the needs of the students in the schools. The state curriculum specialists work with district personnel, principals and teachers all over the state—on the Islands of Hawaii, Maui, Molokai, Lanai, Oahu and Kauai. With state personnel also working in a local capacity with more than 200 schools

with 5,100 teachers and with 149,600 students enrolled, planning far in advance is often necessary.

The School Self-Study Program, which is an instrument through which schools continuously evaluate themselves, is one of the sources through which program specialists understand the weaknesses and strengths in the schools. The results of the data from the School Self-Study Program are summarized periodically and the program specialists know the schools in which help is requested. Together the program specialists, the program assistants, the principals and the teachers determine the nature of what the help shall be. No released time is given for teacher improvement and teacher attendance at in-service programs is voluntary. One-fourth Department of Education credit is given for participating in eight hours of in-service work. So much for the general organization.

The fact that Hawaii is geographically isolated from continental United States has its disadvantages certainly, but there are also some psychological advantages. High transportation costs make attendance at mainland conferences, seminars, institutes and other professional meetings difficult. As a result,

Naomi K. St. Denis is Program Specialist, Mathematics Education, State Department of Public Instruction, Honolulu, Hawaii.

information on new programs, new research, and changes in curricula elsewhere can be attained only through special efforts.

These efforts show up in the attendance at in-service programs, in attendance at the University of Hawaii summer sessions, in late afternoon classes during the academic year and in the amount of perusal of periodicals. The Program Specialist is met with interest and enthusiasm when new programs, new materials and new ideas are to be presented and discussed. We have been fortunate to have mathematics educators from the mainland, as well as from our local university, offer special courses during summer sessions. Interest in these courses, as indicated by the number of applicants, is heart warming.

Interested Teachers

Teacher interest is our focal point in winning public support for our modern programs in mathematics. Many of our teachers are also parents. We try to foster this interest in many ways. An example: During the summer of 1958, Hawaii was fortunate to have Max Beberman, Director of the University of Illinois Committee on School Mathematics, spend two weeks with teachers who had enrolled for an eight-week summer institute. The two weeks with Dr. Beberman merely whetted appetites for further exploring in the field of mathematics. Dr. Beberman was most generous with his time and met with parents as well as teachers.

The interest that was aroused among the teachers and members of the community resulted in another institute in the summer of 1959 with Miss Eleanor McCoy, from the Project staff at the University of Illinois, coming for a six-week

session with teachers. The following summer, Miss Dana Small, who has also served on the Project staff at the University of Illinois, came to work with teachers. Last summer, instructors from the Department of Education at the University of Hawaii ran a most successful institute, and again there were more teacher applicants than could be accepted.

Not all of these teachers are teaching the material of the UICSM group but they are interested in, and concerned with, materials that will make mathematics alive and meaningful in the minds of their students.

1. UICSM (University of Illinois Committee on School Mathematics) materials for Courses I, II and III are being used.

2. The material developed by the School Mathematics Study Group is being used extensively in the seventh and eighth grades.

3. Teachers of under-achievers in some high school classes are using Madison Project materials developed at Syracuse University.

4. Other teachers of under-achievers are using the Ginn Enrichment Booklets.

5. There are teachers who are using the material in Geometry for the Primary Grades developed at Stanford University.

6. Elementary teachers are studying the supplementary booklets for both the Ginn and Winston textbooks.

7. Cuisenaire rods are being effectively used in many schools.

None of this would be possible without interested, imaginative and discerning teachers. Our teacher training program at the University of Hawaii is a five-year program. When the prospective teachers in their fourth year at the University go out for a semester of practice teaching, and again in fifth year for a semester of intern teaching, the University tries to place them with seasoned teachers who will give them opportunities for sound and creative teaching.

Cooperative Administrators

When schools are planning new programs, the matter of articulation from the elementary school to the intermediate school, from the intermediate school to the high school must be worked out. This involves a great deal of planning—the principals must understand the purposes of the change in programs, there must be qualified teachers, and parents must understand the *why* of the changes.

Informed Parents

It is nothing new to say that parents want for their children some of the advantages and privileges that they themselves may not have had. Perhaps the parents in Hawaii are more so—there are many first and second generation parents in Hawaii. Great interest is evidenced in the concern for the education of their children by the way they buy educational materials, by the way they attend cultural functions in family groups, and by the way they support good programs in the schools. It is one of the accepted patterns with the initiation of a new program in a school that the parents are notified that their children have the opportunity of enrolling in a new program and that parents will have an opportunity to hear plans for the program at a meeting which is being held especially for these parents. Others, of course, may attend, and do.

On hand to make presentations and answer questions are teachers, principals and specialists in the field of mathematics. Many pertinent questions are asked not only about the program itself but about the adjustment to it. Is the new material more difficult than the conventional? If the student enrolls for the first year, can he take a second year—

have plans been made for successive years? Can students drop out of the course? At hand are written reactions made by teachers and students to similar programs—the negative is read along with the positive. There have been few parents who have preferred the conventional program.

Another of the accepted plans for directly acquainting parents with new programs is through individual or group conferences. This has been a pattern where elementary groups are involved. Another direct approach is made when PTA groups plan meetings where new mathematics programs are explained and discussed.

Enthusiastic Students

At successive meetings, parents give reactions—the students' telephone conversations with friends over different approaches to solving a problem; how much more quickly the students grasp underlying concepts than can their parents; how willingly students do the homework assignments. There were cases in which the writer was personally involved where students *asked* for Saturday sessions with their teachers in order that more material might be covered.

Part of this enthusiasm doubtless grew out of the fact that they were in a new program but mostly because of the challenge of the material. This was substantiated over and over by unsigned questionnaires in which the students reported their reactions. Typical reactions were:

The course is hard, but fun.

This course makes you think and you learn why the rules are as they are.

We are having fun with our work.

It provides a challenge for me to go ahead.

This course is interesting and makes you use your head.

Somehow I think the course is good because we have to think, and sooner or later we'll have to think for ourselves.

It is much less monotonous than regular courses I've had.

This course makes me think more and use whatever brains I have.

Because of good explanations, some of the doubtful things in my mind have been cleared.

This class has kept me laughing and learning math at the same time.

When we have our mathematics class, I look forward to learning new things.

I wish the period were longer.

I keep wondering what will come next.

I'd like to know more about different branches of mathematics.

There has been intelligent parental interest throughout. At one school, interested parents who had had children in a new program asked the school administrator to give serious consideration to wider coverage. Through the College of General Studies at the University of Hawaii and through the Adult Education Program of the Department of Education, courses in a new program have been offered in which parents, teachers and other professional people have enrolled. More of these are anticipated.

Enlightened Public

The State Information Specialist does an excellent job in highlighting new programs through *The Hawaii School News*. Every teacher in the state receives a copy, and in addition copies go to business houses and other interested people.

The *Honolulu Advertiser* and the *Honolulu Star-Bulletin*, both daily papers, have manifested an interest in the schools of Hawaii by the number of articles which they print. There have been several lengthy articles, with pictures taken in the classrooms, on both elementary

and secondary programs in mathematics. The story may emanate as an idea of an alert reporter who may ask a teacher for an interview, the Information Specialist may contact the press, or reporters may be present at meetings.

Perhaps it is fortunate that Professor Kelly's course in Modern Algebra, which is a community service of Kona Television Station, did not go on the air in Hawaii until the fall of 1961, although earlier efforts were made to have it telecast. Many adults watch the program—no doubt there is more interest than there would have been a few years ago.

The Head of the Mathematics Department at one of the intermediate schools sponsored a mathematics fair which she introduced to the parents through a letter. Materials for projects were to be furnished by the home and the projects would be exhibited at a parent meeting. Suggestions for projects were sent home to the students and the parents. Each project had to be approved by the teacher. The library, the parents and the teachers were all given a rush—the enthusiasm surpassed anything that was expected. The attendance at the PTA meeting where the craftsmanship was displayed was many times the usual attendance. The parents want another fair this year.

In summary, modern programs in mathematics have won public support in Hawaii through interested teachers, cooperative administrators, informed parents, enthusiastic students, and an enlightened public.

We must choose our programs on the basis of what we think is best for our students and teachers. A quotation from *The Prophet* by Kahlil Gibran seems apropos: "If he is wise he does not bid you enter the house of his wisdom, but rather leads you to the threshold of your own mind."

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