What Every ~~Math~~ Teacher Should Know about Joe Crosswhite

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Abstract: *This tribute to F. Joe Crosswhite tells how he was inspired by his teacher, Harold Fawcett, to spearhead a plan to provide quality mathematics curricula with appropriate use of technology for* ***all*** *students through the cooperation of classroom teachers, mathematics educators, and mathematicians. It cites his leadership roles with the National Council of Teachers of Mathematics and other distinguished groups, culminating in the 1989* Curriculum and Evaluation Standards for School Mathematics.

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Introduction

Christopherson-Fawcett Award

When F. Joe Crosswhite received the OCTMs' prestigious Christopherson-Fawcett Award in 2003, it might have been expected that his acceptance speech would tell of his involvement in the influential *Second International Mathematics Study* (SIMS, 1982), his being president of the National Council of Teachers of Mathematics (NCTM, 1984-86), his chairing the Conference Board of the Mathematical Sciences (CBMS, 1988), his seminal role in the development of the Mathematical Sciences Education Board (MSEB, 1989), and his chairing one of the world's foremost university mathematics education departments at Ohio State University. Yet his acceptance speech mentioned none of these—not even his spearheading the 1989 NCTM *Curriculum and Evaluation Standards for School Mathematics*, perhaps the most influential set of educational recommendations in decades. Instead he spoke almost entirely about someone else.

A Special Teacher

Joe spoke of a teacher—a teacher who greatly inspired and nurtured him and many others. He spoke of the qualities of Harold Fawcett. What every teacher should know about Joe Crosswhite is that these qualities were a foundation for whatever he did and that they continue to impact generations of students. In his acceptance speech he traced his career to teaching at a high school and community college in Keokuk, Iowa, when he decided to come to OSU for further study. He had applied for and was accepted in numerous programs, but it was a personal letter from Fawcett revealing that he was familiar with the personal details on his application that convinced Joe to come to OSU. His first course with Fawcett about the nature of proof convinced Joe to stay on to pursue a Ph. D. in math ed. Having lost his own father at age two, he considered Fawcett to be

more like a father than any other man he had known, saying Fawcett was a kind, caring, generous, and loving human being. What we briefly describe here is how the legacy going back to Harold Fawcett and Eugene Smith before him played out in what a Missouri boy teaching in a small Iowa town accomplished on the international stage of mathematics education using his extraordinary leadership abilities.

Mathematics for All

The groups mentioned in the first paragraph shared a common idea: mathematics for ***all*** students. For example, SIMS endeavored to compare the performances of cross-sections of students (not just the college bound) from twenty countries; MSEB famously declared that mathematics should be "a pump, not a filter," specifically addressing the needs of minorities, women, and the disabled. The 1989 NCTM *Standards* focused on providing curriculum and evaluation recommendations for the teaching of meaningful mathematics for all students in a technological society, with evaluation playing a more formative, less restricting role. It is hard to imagine the time before Standards when literally every teacher taught whatever he or she taught was right. Joe Crosswhite was a leader in the effort to improve school mathematics by providing for all teachers indications of what mathematics was important and when it was important.

Guidance for Teachers

The Standards provided guidance for individual teachers, but more importantly they were intended to set high goals for groups of teachers, who worked to determine mathematics curricula for local school districts and schools. Therefore, it is important to distinguish between the movement Joe Crosswhite led and other forms of standards and accountability systems which have emerged since then, in some cases the antithesis of what Joe would have wanted. Specifically, in the late 1980s, mathematics for all was emphasized in the *Standards* through the creation of grade level and evaluation writing groups representing strong voices for sound mathematics, appropriate uses of technology, commitment to equity, and perspectives from the classroom and from scholarly research.

A Voice for Innovation

The innovative plan brought together people representing these views to draft a consensus document, circulate it widely for a year, and then bring the groups back together to refine it in light of the feedback. Four of the two dozen writers were former graduate students from OSU, part of Joe's legacy. In particular, Bert Waits was a strong voice for appropriate use of technology. The legacy continued when Waits and his OSU math department colleague Frank Demana later formed Teaching Teachers with Technology, a sizable force of classroom teachers which spread across the U. S. and beyond. Some of the curriculum projects spawned following the Standards are alive and well today, over thirty years later.

Collaboration with Mathematics

Collaboration was also evident in the close ties at OSU between Joe's math ed faculty and Arnold Ross and a cadre of professors from the Department of Mathematics. The Ph. D. program had a rigorous math coursework component. Math education Ph. D. candidates were given greater responsibilities in the math department. The two departments cooperated to build a highly productive team of mathematics educators, even creating a visiting position in the math department to bring in distinguished math educators to enhance the graduate program for inservice teachers.

Three Anecdotes

Joe Crosswhite was a remarkable collaborator. The three brief anecdotes below offer insights into Joe's work with others and his personality: one told by Joe himself, and one each by the authors of this article.

- Joe told of asking Dr. Fawcett about what to do because someone had copied his work and submitted it as his own. His reply was, "Well, Joe, at least you should give him credit for his choice of resources."
- When, as Joe's grad student, Peggy came to Joe despondent in the fact that there seemed to be so few female leaders in math education who were at the same time in healthy marriages, Joe acknowledged Peggy's concern, telling her that it was time to change that – beginning with her.
- Jim recalls that during the very first hour of the 5-8 Standards writing group meeting, a team member known for her strong positions on equity reacted to another member saying, "I'd die before I'd agree to that!!" Yet in the last days of editing each other's work a year later, the same person said, "I don't need to read what he wrote. I'm sure it's fine." With Joe's wisdom guiding his vision, it was not a coincidence that these two members of the writing team came in with different perspectives and found common ground.

The deep care and respect for all students that Joe inherited were reflected in everything he did. These qualities are even more important in these troubled times.

References

Crosswhite, F.J., Dossey, J.A., Swafford, J.O., McKnight, C.C., Conney, T.J., Downs, F.L., Grouws, D.A., and Weinzweig, A.I. (1986). *Second International Mathematics Study: Detailed Report for the United States*, Champaign, IL: Stipes Publishing Co.

Mathematical Sciences Education Board (MSEB) (1989). *Everybody Counts: A Report to the Nation on the Future of Mathematics Education*.

National Council of Teachers of Mathematics (NCTM) (1989). *Curriculum and Evaluation Standards for School Mathematics*, Reston, Virginia: Author.

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