

Excellence in Teaching Mathematics in Oak Ridge Schools for 45 years. Who is Benita Albert?

(As published in The Oak Ridger's Historically Speaking column the week of June 24, 2024)

For several years now I have been fortunate enough to have Benita Albert as a writer for Historically Speaking. She features Oak Ridge Schools graduates who have been highly successful in their chosen careers. She has written one book and has another one in the works again featuring these high achievers from Oak Ridge.

A most recent special recognition has been given her:

To honor the extraordinary contributions of "Mrs. Albert" over her 45-year career at Oak Ridge High School as a pioneering woman mathematics teacher, the Benita Albert STEM Teaching Fellowship is being established. The program focuses on enhancing the teaching ability of K-12 educators in the Oak Ridge Public Schools and will be administered by the Oak Ridge Public Schools Education Foundation. For further information contact Dr. Donald Johns at axonalguidance@gmail.com.

Jessica Steed has written the following about Benita.

For many Oak Ridgers, Benita Albert needs no introduction. She has been a teaching legend in Oak Ridge Schools for many decades. Perhaps she was your math teacher, or that of your children, your neighbor, your teacher, or your friend. Maybe you heard of her 6:00 AM Advanced Placement (AP) Calculus study sessions, the weekend study sessions she hosted in her home, or her challenging classes and high expectations.

Maybe you learned of Benita by reading one of her many fascinating articles showcasing various Oak Ridge High School alumni and their successes. A quick search online will produce records of Benita's many titles, teaching accolades, and accomplishments -- too many to name here. But who is Benita as an individual? Has she always loved math? How did a young woman aspiring to be a computer scientist become one of the nation's top math teachers?

Benita was born in Moberly, Missouri. She started first grade at age five. According to Benita, "There was no kindergarten offered, and Mom decided that I was ready to start school. Technically, per the rule book, I should have started one year later. By beginning early, I was able to have dear, sweet Mrs. Earline Dennis in her last year of teaching before retirement. I don't remember much more about first grade other than learning to print letters then words and learning to read. The latter was the most precious gift I ever received from school. By the end of first grade I had read every book marked for first and second grade readers in the school's library."

Benita attributes her love for mathematics to Cottage Grove School, a one-room schoolhouse which provided a rare learning opportunity to see the future of math and to fall in love with the subject. Benita shared, "Mrs. Betty Wright conducted her math lessons at the chalkboard where she and students worked on problems. By second grade, I joined the arithmetic being done at the board by quietly working the same problems at my desk. I didn't always catch on to what the older kids were doing, but I copied notes that I worked on and tried to comprehend. I also listened intently for concepts I missed on the following day. Before I left at the end of my fifth year, I could do all the arithmetic through eighth grade."

Benita's family moved to Illinois, West Tennessee, and then to Kingston, Tennessee where her love for math continued to grow in public schools. According to Benita, "I was always the best in class when it came to math. At least, I was the best until I met new students from Oak Ridge whose families relocated to Kingston. They were placed in my Algebra II class in my sophomore year at Roane County High School. I was awed by what they knew. I quickly made friends with them, so glad to work with them and to have them teach me more. Mrs. Mildred Carroll, my Algebra I and II teacher, introduced me to higher, symbolic thinking and problem solving and sealed my intent to pursue mathematics. I always qualified for the state math contests, a position made even harder to secure once the Oak Ridge math geniuses joined my classes."

Surprisingly, as a high school student, Benita never once thought she would go on to become a teacher. Benita explained, "Unfortunately, outside of my high school math teachers, I felt a lack of academic inspiration and encouragement. Thus, I rated teaching as one of the last things I would ever choose to do. In retrospect, I now realize that I also learned a lot about what I would never do with students. I would never presume to come into a classroom unprepared or unenthused, or without true caring and investment in them personally and in their potential to learn."

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Benita began her college education at Tennessee Polytechnic Institute (later renamed Tennessee Tech University) to study mathematics. She chose to transfer to the University of Tennessee (UT) for her junior and senior years. Benita shared, "I was tired of being the only girl in my math classes, and only one of two girls in a full-year, ninety-member physics class. I was never discriminated against as a female, but it was lonely. I was privileged to have caring, full professors at TN Tech for all six quarters of my Calculus instruction, an experience that provided me with an incredibly strong foundation. However, I also wanted to add a computer science concentration to my undergraduate program, and UT's newly forming computer science curriculum met my wishes."

During college Benita worked every summer to earn money to help pay for her education at the Roane County Newspaper Company her mother co-owned. "I usually set headlines on an antiquated, dial-up letter wheel, a machine which printed out headlines for later pasting in place on the newspaper pages. I collated books, proof-read stories, and ran errands to the many out-lying newspaper offices the company served." Her summer job never seemed to leave her in a great financial position considering the costs of attending college.

Providentially, the first day of her senior year at UT she received a phone call from a UT math professor, Dr. Donald Dessart. Benita explained, "He was a math education professor who needed a teaching assistant to help him with a large class of sophomores who were studying to certify for elementary math teaching. I was so excited! The assistantship meant that all my tuition would be paid, and I would also earn a small check each quarter. It was more than I needed to finish paying for my senior year.

"I was so excited that I readily accepted while also telling Dr. Dessart of my financial situation and how his job offer had resolved my worries. He was so gracious; and I was so foolish. Within two hours, Dr. Dessart called me back to ask about my graduate status. He had looked at my transcript too quickly, noted that my coursework included graduate course work and thereby assumed that I was a graduate student. I was not.

"He apologized profusely, said it was his mistake, but he had to offer the job to a graduate student. I went from over-the-moon excited to disconsolate within one day. However, God was on my side. The next morning there was another phone call from Dr. Dessart asking me to stop by his office. He had spent the previous afternoon trying to find a graduate student to no avail, and thus, he was reinstating his offer."

When asked about her experience as a teaching assistant, Benita stated, "That Math for Elementary Teachers course was pure magic, at least for me, if not for the much less interested students. Dr. Dessart built the structure of mathematics and mathematical thinking before my hungry eyes each day of class. It was my job (actually, my pleasure) to attend every class, record class attendance, hold office tutoring hours, and help grade their tests.

"I was chagrined at the lack of interest and investment from many students. They attended class because it counted as a part of their final grade. They rarely came to tutoring sessions until the day before tests when they expected me to cover numerous days of lecture content and tell them what was on the test (to which was not privy.) Reading test answers was a too-often discouraging task. I was shocked! I began to worry that these were the future teachers of my and the nation's children. This experience further deepened my dismissiveness for teaching as a profession."

At the end of her senior year, in early May, Dr. Dessart asked Benita for a meeting. She shared, "I had no idea why. I was quite surprised to learn that he wanted to offer me a National Science Foundation fellowship for graduate studies at UT. Asking further questions of him, I learned that the fellowship program, 'Prospective Mathematics and Science Teachers Fellowship,' was a government funded initiative to recruit highly qualified undergraduates toward a career in teaching. I thanked him for the wonderful offer, but I added that I had no interest in teaching, that I had taken no education classes.

"He said that was the point of this recruitment fellowship, and he asked me to think about it over the coming weekend. When I told my mother about his offer and that I had decided to decline, she was aghast! She rejoindered: 'What are you thinking, you are marrying a sailor, and the one job you can count on finding when you travel with him is as a teacher.' I went back and apologetically asked if the fellowship was still a possibility..."

Benita went on to say, "I spent one year of my two-year fellowship completing courses that met teacher certification requirements. I did not enjoy my education classes, and this experience made me further question a teaching career.

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However, the fellowship required that I teach for at least two years. I secured a teaching assignment at Berkeley High School in California nearby Treasure Island where my husband, Mark, was stationed.

“Just before my last quarter of grad school, Mark called to say that he was being shipped to Midway Island and that I could not go with him. Dismayed by his news, I quickly found an interview opportunity with the Oak Ridge Schools, and I was blessed to be hired the same day. I have no doubt that this opportunity to teach in one of the nation's best school systems changed everything for me as I entered the profession. I would later describe my immersion into teaching as a bed of hot coals (very challenging) made better by the many students who lifted me up and inspired me to be my best. They were my strength.”

Benita shared, “I knew the Oak Ridge Schools were exceptional in their innovations and expectations, but to learn that they trusted me to teach an Advanced Placement Calculus course was overwhelming to this first-year teacher. I was replacing a legendary teacher, Ruth Benson, who initiated the teaching of Calculus in the early 1960's at ORHS and who later aligned her curriculum with College Board's AP Calculus guidelines. Such an offering was extremely rare in public schools in 1968 when I took on the course.”

“I was asked to visit Miss Benson and receive instructional materials from her inventory to begin my course planning. I met her in my future ORHS classroom where she handed me three textbooks for the courses I would teach—Geometry, Math Analysis, and AP Calculus. None of the books were teacher editions and there were no ancillaries, no lesson plans, nor pacing guidelines. When I asked her about ancillaries, she asked me what I meant. I specifically stated that a solutions book would be most helpful. She brusquely replied, 'If you have to have that, then you should NOT be teaching these courses.' Whew! I fearfully started from scratch and with a new and profound humility for the task ahead.”

Benita continued teaching at ORHS for a second year due to her husband's subsequent deployment to the Western Pacific including Viet Nam War support. Benita explained, “He served on guided missile destroyers, an assignment that ultimately sent him to every hot spot in the world. We were together only one month out of each of our first five years of marriage. I stayed with ORHS beyond my two-year teaching requirement because I fell in love with my incredibly bright and inspiring students.

“Mark came home with a first-class electronics training experience from the U. S. Navy which he turned into an electrical engineering degree at UT and a 36-year career in Oak Ridge government plants. We were thrilled to be able to see our two daughters graduate from ORHS in 1997 and 2000. I retired in 2013 due to my mom's increasing illnesses and care needs. I still miss the classroom, the banter with my students, and the many lessons I learned from them. I found my calling via a crooked route, and it now doubly rewards me via reconnections to students with whom I shared the classroom. I tell everyone that I saw the future daily and it always looked so bright!”

Benita never got to teach computer science at ORHS, but her Calculus assignment and the incredible AP scores of her students earned her a very young appointment to College Board and the AP Calculus Test Development Committee. She served as an AP Calculus consultant from 1975-2020, leading workshops, authoring the “1985 AP Calculus Teacher's Guide,” and teaching AP teachers in weeklong, university summer programs across the U.S.

When asked about Calculus II and the Math Thesis courses she created, Benita replied, “In the 1970s I taught sophomore-level Calculus (Multivariable Calculus, Linear Algebra, and Differential Equations) in UT's night school. There were several ORHS students completing AP Calculus under me as early as their sophomore or junior year. I offered to take those students with me to my UT night class should they want. By 1978, my car was full. It was then that the Chair of the UT Math Department (who had allowed my students to attend free of charge) recommended I install a course in the above-mentioned three subjects at ORHS, named Calculus II, where my students could opt to register for UT college credit.”

“Also, I began to deal with the above-mentioned sophomores who needed something for their ORHS senior-year math course. My mind raced back to the math enrichment projects students presented when I taught Math Analysis. I wanted to create a course structured around a cooperative research agreement with Oak Ridge National Lab mentors. It was quite the political battle, but I found advocates within ORNL to support my cause. A tough hurdle was arranging security

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clearances for underage student applicants, but eventually Lab officials agreed with me that this was a symbiotic benefit between the Lab and ORHS. Math Thesis was created in 1983, and the rest is history.”

“The Thesis course brought me a new passion for learning as year after year I oversaw the cutting-edge science projects my students completed. We won an obscene number of science competitions over time including national finalists (top six research papers in the nation) six times in the Siemens Math and Science Competition—two of those years we placed first, and my student teams won \$100,000. Thesis taught me to never fear questioning when my skills were not equivalent to the mentors overseeing my students. If I could not follow the logic of a presentation, I had to be taught and/or convinced by my students.

“Quite often my students told me that in their meeting with contest judges, similar questions to mine were posed. I was their unwitty learner, advocate, and cheerleader. An additional blessing was that Thesis offered me a return to my computer science roots as much of the Lab's computer code at the time was still in Fortran, the primary language background from my UT studies.”

With all her rich experiences across 45 years at ORHS, Benita also includes another of her passions, namely, teaching Algebra I. She wrote, “I felt it was important to include a foundational course in my yearly schedule. I needed to meet and to understand the beginning learner in a critical course for their future in math. Many students came to ORHS having completed Algebra I in middle school (or junior high), and therefore, it was often the case that my ORHS Algebra I classes were peopled by students with low confidence and interest in the subject. I knew that none of that was their fault, and it was my honor to help reset their minds and attitudes in one of the most beautiful subjects in all of math, Algebra I!”

“I am sure that if any of my former students read this, they are laughing and remembering that we did math every precious minute in my classroom. If we ‘partied’ it was always something to do with math. I am so proud of the many students who went on to take more than the required math credits, who proved to be creative problem solvers and thinkers, and who now hold down many important positions in this community. When I hear ‘Ms. Albert, are you still teaching?’ in various venues around town, it is most often one of my Algebra I students. I love those joyful reunions and the pride they show in the time we spent together.”

“I can honestly say that teaching is the hardest job you will ever love. And who would have thought that lucky me found it. I am now honored to write about many incredible former Oak Ridge students who are capably leading us into the future in so many innovative and expansive careers. I am proud to count among my former students many who are educators across all levels and fields of study, educators who I know loved learning and who are now igniting the same in their students. God bless them all.”

Benita has been retired for over a decade now, and I can tell you she is anything, but retired. During the eight years I served as Executive Director of the Oak Ridge Public Schools Education Foundation (ORPSEF) I had the privilege to work alongside her as she serves on the ORPSEF's Board. Working with her on the Foundation's book project, *Celebrating 75 Years of Excellence in the Oak Ridge Schools: 1944-2018*, I learned that what Benita's former students always told me was true. She sets lofty goals and has high expectations, but she also comes alongside you with encouragement, and rolls up her sleeves to teach and help where needed. She continues to be a fierce advocate for academic excellence at ORHS continuing to serve on the ORPSEF board and writing to highlight many of the remarkable stories you read of ORHS alumni in this column.

When asking a current ORHS English teacher about his experience teaching with Benita he said, “Benita Albert is one of those extraordinary teachers whose legacy sometimes feels like the weight of the world. The pressure I feel to live up to her impossible standard is the best kind of motivation. For instance, when I meet a graduate who has had Benita as a teacher, they will inevitably share a story about how Ms. Albert influenced their life or the impact that her instruction had on their chosen profession.

“These encounters are a constant reminder of the tradition of excellence established at ORHS, and a reminder of my responsibility to inspire my students to reach for success in the same way that Benita did.” We are fortunate to have had such an excellent educator in Oak Ridge Public Schools for 45 years and just as fortunate that Benita remains an ever-faithful advocate of excellent public education in Oak Ridge Schools.

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Thank you Jessica for bringing us such a delightful story of a truly amazing lady! I am proud to know Benita Albert and am so pleased she has chosen *Historically Speaking* as the vehicle to share her marvelous stories. If you would like to know more about her efforts, you might enjoy *Hidden History: Stories from the Secret City* video casts featuring her:

https://youtu.be/Ns7eOVw_GdU?si=FL7r48uXlc6gVQxA

<https://youtu.be/ihJch6tBTkQ?si=Bilxxvv9XhjavkKq>

<https://youtu.be/ltbKdge0ack?si=UfINzB-NMnitVrlx>

<https://youtu.be/ltbKdge0ack?si=s3cVxrwn0Jhk2YF>

<https://youtu.be/jQNSRXTR28?si=A3p-4ktBazTpghro>



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Benita Albert from the Oak Log in 2007 *Courtesy Oak Ridge High School*



Mark and Benita Albert in 2017 at their daughter's wedding *Courtesy Benita Albert*

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Mark and Benita Albert on their 55th wedding anniversary in 2022 *Courtesy Benita Albert*