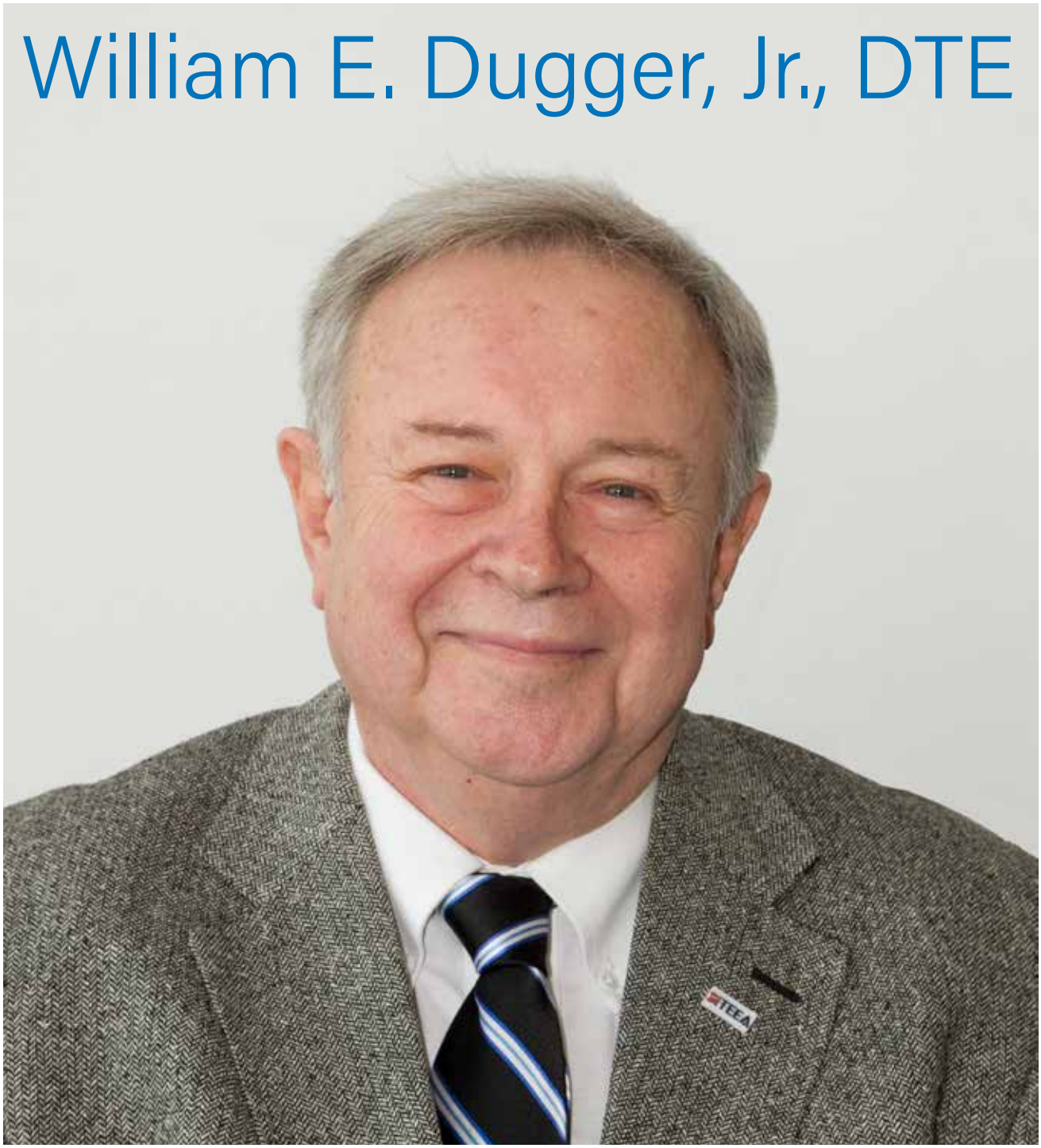
the legacy project

William E. Dugger, Jr., DTE



Many vocational education, technology education, and now technology and engineering education leaders have made their mark on our profession. Their legacy is something that members of the profession enjoy and have a responsibility to continue and build upon.

This is the ninth in a series of articles entitled "The Legacy Project." The Legacy Project focuses on the lives and actions of leaders who have forged our profession into what it is today. Members of the profession owe a debt of gratitude to these leaders. One simple way to demonstrate that gratitude is to recognize these leaders and some of their accomplishments. The focus in this issue will be on Dr. William E. Dugger, Jr., DTE.

by
Johnny J Moye, DTE and
William E. Dugger, Jr., DTE

Dr. William E. Dugger, Jr., DTE

AIAA/ITEA President, 1984-1985
Director of Technology for All Americans Project, 1994-2005
Senior Fellow, ITEEA, 2005-Present

Born: Brodnax, Virginia
Married to: Carrie Briscoe Dugger

Degrees:
1970: PhD – The Ohio State University
1965: MS – Appalachian State University
1958: BS – Virginia Tech

Occupational History:
Senior Fellow, International Technology and Engineering Education Association, 2005-Present
Director, Technology for All Americans Project, International Technology Education Association, 1994-2005
Emeritus Professor, College of Human Resources and Education, Virginia Tech, 1966-Present
Professor of Education and Program Area Leader, Technology Education, College of Education, Virginia Tech, 1972-1994
Co-Director, Mission 21 Project, NASA – Virginia Tech, 1985-1994
Director, Standards for Technology Education Project, Virginia Tech, 1984-1985
Director, Standards for Industrial Arts Programs Project, Virginia Tech, 1978-1981
Associate Professor of Education, Western Kentucky University, 1970-1972
Graduate Teaching and Research Associate, Industrial Technology Education, The Ohio State University, 1967-1970
Industrial Arts Teacher, Martinsville City Schools, Martinsville, VA, 1959-1967

The early years.

What was your career like before you became known as the "Standards Man" for ITEA/ITEEA and the profession?

My career began in 1959 as a junior/senior high school industrial arts teacher in Martinsville, VA. It was indeed an honor and pleasure to teach there for eight years with wonderful professionals and people like Chester Lane, M.G. Lilly, Sam Lawrence, Prilly Blunt, and others. During this time, I received a Masters degree (1965) in Industrial Arts Education at Appalachian State Teachers College (now Appalachian State University) in Boone, NC. In 1967 I began working on a Ph.D. from The Ohio State University (OSU). At OSU I was a graduate research associate with the Industrial Arts Curriculum Project (IACP) and also taught undergraduate classes. After graduating from OSU in 1970, I served as an assistant professor at Western Kentucky University for two years. Then in 1972, I was offered the Program Area Leader (PAL) position in industrial arts education at Virginia Tech, a position that was held by Joseph Schad since the formation of the department in 1946 (the other faculty members were Russell Louis and Walter Griggs). While at Virginia Tech, we had a strong undergraduate teacher preparation program (90-110 students) as well as a graduate program (MS and PhD). In fact, an unpublished study titled "Selecting Doctoral Programs in Technology Education" done by Ed Reeve and Gary Stewardson at Utah State University in 1992 cited the graduate program at Virginia Tech as #1 in the "Ranking of Technology Education Doctoral Programs as Perceived by Leaders in the Field of Technology Education."

It was a pleasure to work with a distinguished faculty at Virginia Tech that included Allen Bame, Jim LaPorte, Charles Pinder, and Mark Sanders. I served as PAL at Virginia Tech until 1994 when I became the Director of ITEA's Technology for All Americans Project.

Helping to guide the profession.

In 1984-85, I served as President of the American Industrial Arts Association (AIAA) (for 363 days) and the International Technology Education Association (ITEA) (for two days). During my term, AIAA went through a name-change process to emphasize technology. There was much debate by members prior to voting. The new name, International Technology Education Association (ITEA), was approved by the members and announced at the association's annual international conference San Diego, CA in 1985.

What were your concerns as you worked with the association members to change the name of the association from the American Industrial Arts Association to the International Technology Education Association?

My primary concern with the name change of the association was acceptance by the members and others that "technology" was going to be the content organizer of our discipline. A second concern was the change of the name in the title to "International" rather than "American."

On the first concern, there were a number of members who embraced the name change, and they led the way by changing their curriculum to reflect technology. However, there were others who had the "if it ain't broke, why fix it" mentality and resisted the change by continuing to teach what they had been doing in the past. Regarding the second concern, there has been increased involvement internationally with the study of technology over the past two decades. It is my opinion that ITEA has had some positive influence in promoting the worldwide movement in the study of technology.

You were involved in the creation of national standards long before* Standards for Technological Literacy. *What were those standards, who funded them, and what kind of standards were they?

Yes, I was involved in developing standards for industrial arts programs in the late 1970s and early 1980s. In 1977, the U.S. Department of Education (USDE) issued a Request for Proposal (RFP) to develop standards for industrial arts education. The faculty of industrial arts education at Virginia Tech (Alan Bame, Charles Pinder, and myself) worked on a proposal to respond to the RFP. We were notified in 1978 that our proposal was successful, and the project titled "Standards for Industrial Arts Programs Project" would be funded for the next three years by the USDE.

There were three components in the research project that had to be undertaken. They were:

- To develop a database on industrial arts programs and on industrial arts student organization activities as an integral part of the industrial arts instructional program.
- To develop a set of standards and related handbooks for ensuring quality industrial arts programs.
- To familiarize, publicize, and demonstrate the standards developed for industrial arts programs.

These three components were completed, and a final report was sent to the USDE in 1980. *Standards for Industrial Arts Programs* was revised by AIAA in 1985 to reflect technology rather than industry. Funding was provided by the Technical Foundation of America. The revised document, titled *Standards for Technology Education Programs* (AIAA, 1985), was disseminated by AIAA/ITEA and printed by Goodheart-Willcox Co.

What problems did you face when working on the proposal for* Standards for Technological Literacy *(e.g., what type of standards to create, no rationale and structure to start with, etc.)?

The nonsolicited proposal for the Technology for All Americans Project was prepared by the organizing committee of Kendall Starkweather, Tom Hughes, and myself in 1992-94. We went through a number of iterations in the proposal and received significant and helpful input from Dr. Gerhard Salinger of the National Science Foundation (NSF). As we became close to completing the final version of the proposal, we were informed that only a certain amount of money could be provided by NSF. As a result, we had to seek out an additional source(s) of funding for the project. Through the help of NASA and Frank Owens, Director of NASA's Educational Programs, we were granted financial support for the additional funds that were needed for the project. Significant support was received throughout the project from William Wulf, President of the National Academy of Engineering, and Greg Pearson at the National Research Council.

The first proposal in 1994 was to develop a rationale and structure for the study of technology. The organizing committee felt that this needed to be done because technology education was a relatively new subject in schools, and there was no philosophi-

cal foundation for what should be included in the standards. Thus, *Rationale and Structure for the Study of Technology* was developed from 1994 to 1996 (and later revised in 2006). Additional proposals were written and funded for *Standards for Technological Literacy: Content for the Study of Technology* (*STL*) from 1996-2000 and *Advancing Excellence in Technological Literacy: Student Assessment, Professional Development, and Program Standards* (*AETL*) from 2000-2005.

In this last phase of the project, ITEA Gallup polls on "What Americans Think About Technology" were conducted in 2001 and 2004. In each poll, a random sample of people across the U.S. were asked, by telephone, questions about their knowledge and understanding of technology. The first question on both the 2001 and 2004 surveys asked a simple open-ended question: "What is technology?" Most of those who participated (68% in 2004 and 67% in 2001) view technology very narrowly as being computers, electronics, and the internet. This finding was shocking, especially to those who believe that technology encompasses all that humans do to modify or change the natural world to satisfy their needs and wants.

What do you consider the biggest achievement resulting from STL?

I believe that the most important achievement was to develop a body of content (K-12) that was validated nationally and internationally for the study of technology. This content provides a foundation for what every child should know and be able to do to be technologically literate. The content standards provide the ingredients for what should be taught in the curriculum. There were hundreds of educators, engineers, scientists, parents, students, key decision-makers, and others who provided input into *STL*. Their help provided strength to the document, and *STL* is respected and used in the United States as well as worldwide. *STL* has been translated and published in Japanese, Chinese, Finnish, German, and Estonian languages. Also, *AETL* has been translated into Japanese. Standards are dynamic documents and need to be revised and updated periodically. This is also true for *STL* and *AETL*.

Thank you Dr. Dugger for your leadership and for sharing a small portion of your legacy. Your work has and will continue to have a positive influence on students across the world. The Legacy Project has now interviewed nine leaders who were very influential to the technology and engineering education profession. It is very beneficial to current (and future) leaders to read about the issues that existed and how they were addressed "back in the day." In a few months the next interview will appear in this journal. If you have a suggestion of a leader to recognize, contact the author with that person's name and contact information.

Johnny J Moye, DTE *recently retired from his position as a Supervisor of Career and Technical Education at Chesapeake Public Schools, Chesapeake, VA. He can be reached at johnnyjmoye@gmail.com.*

William E. Dugger, Jr., Ph.D., DTE *served as Director of ITEEA's Technology for All Americans Project, which developed the landmark* Standards for Technological Literacy *and* Advancing Excellence in Technological Literacy *documents. Dugger is an Emeritus Professor at Virginia Tech and serves as Senior Fellow for ITEEA. He can be reached at wdugger@iteea.org.*