



# the legacy project

## Thomas A. Hughes

BY  
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DTE

**M**any 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 fourth in a series of articles entitled *The Legacy Project*, which focus 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 Thomas A. Hughes. Tom led the Technology Education program in Virginia.

### THOMAS A. HUGHES

ITEA President 1985-1986

**Place of Birth:** Abington, VA

**Degrees:**

BS in Industrial Arts (1960), Virginia Tech,  
Blacksburg, VA

MS in Education (1966), North Carolina State  
University, Raleigh, NC

**Occupational History:**

Taught industrial arts, Woodrow Wilson Jr. H.S.,  
Roanoke, VA (1960-63)

Taught industrial arts, E. C. Glass H.S.,  
Lynchburg, VA (1963-64)

Assistant Supervisor, Industrial Education, Virginia  
Department of Education (1965-69)

State Supervisor, Industrial Arts Education,  
Virginia Department of Education (1969-85)

Associate Director, Technology Education, Virginia  
Department of Education (1985-91)

Director of Development, ITEA Foundation for  
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***What were the major thrusts in the field of industrial arts/technology education during your time as a member of our profession?***

You ask me about an era in which I respond more accurately from a Virginia perspective; however, my good fortune to participate in our professional association, known today as ITEEA, widened my range of experiences and observations. The Virginia story, while I was employed by the state's department of education, could be an example of our field's journey of challenging discoveries, crossroads, redirection, and advancement from the 1960s into the '90s. It was a dynamic period—as currently characterized by continuing change with challenges and problems that usually brought opportunities to improve and grow. My own journey causes me to view three major thrusts that follow a sequence of state-level leadership, program redirection, and special funding.

**State-Level Leadership/Supervision**

The first major thrust is about the significance as well as the difficulty in securing state-level leadership via an industrial arts office within a state

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education agency. During the mid-'60s, state-level supervisors within an office designated exclusively for industrial arts could be found in less than one-third of the states, in which many were subordinate to trade training leadership. (Many professionals referred to it as vocational education influence. In fact, it was more oriented to being a subunit of trade and industrial education.) But the lack of statewide supervision/leadership was eventually overcome, due in part to the long involvement of Marshall L. Schmitt, Specialist for Industrial Arts, U.S. Office of Education, along with the ceaseless pursuit of state industrial arts organizations. In Virginia, state-level supervision followed more than 30 years of part-time assignments that were overshadowed by added responsibilities unrelated to industrial arts. Naively, I was unaware that this was why my new position had been vacant for more than two years when I began in 1965.

During my first year, the aim was to learn firsthand the needs, wants, and aspirations of the profession by observing as many teachers as possible throughout the state. Observations were recorded in each school system offering industrial arts, which meant completing on-site visits to 103 different secondary schools. Perhaps the most significant finding was that Virginia's industrial arts program was a huge smorgasbord, with a wide range of subjects and teacher preparation as well as perceptions of what an up-to-date program should be. Commonalities were largely dependent upon the college/university preparing the teacher. Nearly half had been recruited from other states because Virginia's supply did not meet the demand. A year's worth of observation revealed a plea for democratic involvement within the profession (teachers, supervisors, and teacher educators). There was a strong desire to cooperatively develop curriculum plans and programs reflecting current ideals of the profession. The first effort was a tentative curriculum framework for secondary schools (7-12). However, to serve the broader needs of the profession required more than one person traveling about and offering teachers and administrators technical assistance, as well as preparing curriculum resources and coordinating activities for the profession in total.

Progress came the summer of '67 when Marshall Tetterton joined me. We had similar backgrounds of industrial arts teaching and credentials. Although we became a two-person IA team, we did not have the autonomy the profession needed. We shared common core values about the potential of industrial arts, in the context of education for all as advocated by the profession's leaders. We believed our work should be grounded in the 1960 Conference Report of the U.S. Office of Education, *Improving Industrial Arts Teaching*, and the ideals expressed in Delmar Olson's *Industrial Arts and Technology* (1963). Planning

sharpened our vision and expanded aspirations to serve the needs of learners through consultation, instructional resources, and in-service activities that would give increased support and encouragement to the teacher. However, our beliefs and work were charged by our supervisor with being too progressive for what students needed for today's world [1967]. He wanted us to give more focus to occupational analysis for the curriculum rather than those "far-out" theories.

Productive work and effectiveness advanced phenomenally when the State Board of Education established the Industrial Arts Education Service, June 1, 1969. I was appointed State Supervisor along with Marshall as Assistant State Supervisor. Establishing this office had been a major goal of the Virginia Industrial Arts Association since it began eleven years earlier. The Association's persistence was led by two devoted professionals: Professor Joseph A. Schad, IA Department Chairman at Virginia Tech, who had also led the VAAA's formation, and Edward Daughtrey, President of the Norfolk Industrial Arts Association. The establishment of a service unit solely for industrial arts meant that direct instructional assistance for IA teachers and broader program development with more involvement with teacher educators, local supervisors, and others could become a greater reality rather than a dream. This type of change was also beginning to occur in other states. It was supported by federal funds through the National Defense Education Act (NDEA). In this state, it meant a divorce from the control of Trade & Industrial Education; however, the new office remained a component of Vocational Education, but with equal hierarchical status as the traditional fields of agriculture, business, distribution, home economics, and trade and industry. Many of the profession's national leaders frowned upon a connection with vocational education. They did so by not accepting the gradual liberalization of the term through legislative change, but especially as found in the 1963 Vocational Education Act and amendments. Virginia's State Director, George Sandvig, gave assurance that he believed in the worth of industrial arts for all learners and that, if it was valuable for everyone, it was assuredly worthy for students pursuing occupational preparation.

Within nine years, through a series of proposals and negotiations, the state office grew to a professional staff of six located in three offices across Virginia. The first expansion came in 1972 by establishing a curriculum development component to help with the continuing preparation of new instructional resources exclusively for our discipline. Arvid W. Van Dyke accepted the challenge of the new job, having been recruited from the faculty at Western Kentucky University. Next we wanted teachers across the state, regardless of the distance from Richmond,

to have easy access to technical assistance by an IA specialist. The first regional office was established in Roanoke to be near teachers in a region more than 200 miles southwest of Richmond. Subsequent regional positions used Richmond as a base. The sixth position, established in 1978, was for a specialist to help teachers incorporate student organization activities within their classes. The position was initially held by George R. Willcox, who had been exemplary with the integration of student organization activities within instruction. As a team, we strived to make state supervision the means to bring unity and harmony, with schools and teacher education working collectively to improve and advance the field. Its benefit was instrumental to another important thrust during this time period—program redirection.

### Program Redirection

During the late '60s there was considerable interest in Virginia and across the nation to find new ways to make industrial arts more relevant to the learner's world. The first dramatically new approach with evidence that it increased student interest and achievement was called the Maryland Plan, developed at the University of Maryland. Rising fast in interest was also the Industrial Arts Curriculum Project (IACP) based at The Ohio State University. The beginning of Virginia's redirection was reported in the 1970 fall issue of *Public Education in Virginia*. Titled "A New Look for Industrial Arts Education," the story highlighted major developments influenced by the Industrial Arts Education Service unit during its first year (1969-70). Demonstration programs had been identified as models of the Maryland Plan. Demonstration teachers had taught other teachers how to implement the Maryland Plan through a series of tuition-free graduate credit classes. John Bonfadini, IA Supervisor, Prince William County, had an agreement to establish IACP demonstration centers in cooperation with The Ohio State University. Also, the nation's first educational television series for industrial arts had been initiated by the Central Virginia Educational Television Corporation. In summary, this program redirection gave a start to reform that caused the field to change its name to technology education. Redirection had three major components: (1) research-based models for new offerings, notably from major universities beyond Virginia, (2) demonstration programs taught by well-qualified and highly motivated teachers, and (3) massive graduate credit in-service classes that, within three years, reached 75% of the industrial arts teachers across the state, with each class taught by an exemplary secondary-level teacher. Even more, imagine the shock wave and awakening these early developments brought to Virginia teacher educators, who assumed public school teachers would always get further preparation through their customary offerings. However, very soon



IA teacher educators found new ways to update their respective programs of studies. By the mid-'70s, Virginia's IA teacher education programs were significantly on their way to being exemplary in preparing teachers for the program's new age. This early example of program redirection was the springboard upon which a third major thrust emerged—special funding.

### Special Funding

During George Ditlow's AIAA presidency (1969-70) with Ed Kabakjian as Executive Director, I became involved with the association's legislative initiatives. Both leaders were passionate about the value of industrial arts for all learners and the field's need to gain more significant financial support at both federal and state levels. Attention focused on a growing problem for IA as a result of the Vocational Education Act of 1963. Funds were available for programs having the same objectives as IA. A few states had written their State Plan for Vocational Education to include IA. Most states rejected the idea because either IA or VE or both did not want to be associated with the other. After months of meetings of a Washington Team (Carl Gettle (MD), Ron Hall (PA), Tom Hughes (VA), Ed Kabakjian (Exec. AIAA), George Litman (VA), and Alan Myers (MD)) to study and strategize at the AIAA headquarters, progress was made when Ed was called and I joined him to testify before a U.S. Senate subcommittee April 23, 1971 (chaired by Senator Walter Mondale [MN]) to clearly identify the eligibility of industrial arts

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funding. Efforts were successful, as evidenced by the Educational Amendments of 1972, identifying industrial arts education as eligible to use federal vocational funds.

While national efforts opened potential funding for our field, Virginia's public schools were headed toward changes that could also bring new state funds. The process had started to form a new constitution, becoming effective July 1971. It contained requirements for all public school systems expressed as standards of quality (SOQ). In compliance with the new Constitution, standards of quality were adopted by the State Board of Education beginning in 1972. Requirements were made for administrative and teaching personnel, programs (elementary, secondary, kindergarten, special education, vocational education, and continuing education), instructional materials and/or educational television, planning and management, and student and teacher performance. The State Board had to clearly identify what was meant by the term vocational education. Fortunately, the state superintendent knew the question eventually would relate to industrial arts, and the question came to our office. How shall industrial arts relate to a fresh new definition of vocational education in Virginia's public schools?

The philosophical foundation of IA had reached an intersection. One direction proclaimed IA was not connected with vocational education because one was solely for occupational training while IA was considered general education. The other direction foresaw potential in the Constitution's essentially requiring vocational education to be available for all students. Optimists saw a broad definition of vocational education—like at the federal level—increasing opportunities for students to have industrial arts instruction. Accepting the latter route would be dramatically different from the traditions of both vocational education and industrial arts education. Hardliners from both IA and VE opposed a progressive view. The ultimate consequences of determining the appropriate direction required more than a state staff decision. Finding an acceptable direction required a consensus decision from Virginia's IA leaders that included teacher educators, subject area supervisors, and representatives of the professional association as well as state staff. Thus, we called a meeting to address the question November 18-20, 1970 at Virginia Tech's Donaldson Brown Center.

Forty (40) participants representing all factions attended the meeting. Discussion and debate covered numerous "what if" scenarios, with references to the good and bad experiences in other states along with a host of potential problems as well as opportunities. Eventually, the group's deliberation came to a consensus that the industrial arts profession had more potential

opportunities to grow and develop by accepting an equal role in a newly defined vocational education, than to reject it. Decisions included recommendations that the recognized programs be the redirected junior high school level (7-9), which meant teachers would be implementing either the Maryland Plan or IACP. The optimistic proclaimed this should be the incentive to encourage more innovation in schools, and that eventually new upper secondary programs would be recognized, too.

The perceived value of industrial arts/technology education to all learners continued to grow after that decision became practice. Becoming an official component of vocational education without compromising principles of the contemporary field brought benefits far beyond the difficulties of federal and state reporting and audits. Public school students were the true winners. Accepting the broader meaning of vocational education resulted in state and federal funds becoming a new incentive to encourage or even require students to include industrial arts and later technology education within their Grade 7-9 studies. Teachers gained renewed credentials, up-to-date curriculum materials, and new tools and equipment. Positively, the discipline continued to evolve, representing its dynamic nature. Increasingly it was viewed as an important component of a broader vocational education program. However, the discipline's place in subject matter hierarchy did not become equal to liberal arts or perceived as essential as mathematics or language. This lack of hierarchical prestige was a greater concern in higher education.

***The department that you led beginning in the 1960s was very active with the curriculum movement and in advancing the profession. Please describe the major focus of your department (what the members were assigned to accomplish) and how you were working for change.***

Simply stated, our major focus was improvement! As we know, the central reason for supervision is improvement of instruction. But what value is excellent instruction if it does not apply to what the learner should acquire? Thus, it can be said that we had three focuses, with each leading to more meaningful learning. First, we gave focus to instructional improvement, which we described as technical assistance. Second, we focused on curriculum improvement, which meant developing resource materials to help the teacher be successful teaching about a field that inherently will be ever-changing. Third, we focused on teacher preparedness, which relates to undergraduates and the experienced because change is continuous. We believed that, collectively, these points of focus give a synergy to further advance the value of the learning experience.

### Building Commitment

We believed strongly in the value of teamwork and consensus building. For example, we encouraged the formation of a Virginia Council on Industrial Arts Teacher Education. It was established to promote discussion and determine ways to help future teachers and current ones to be better prepared for the new curriculum—whatever it might become. (Because our office paid meeting and associated costs, there would not be a need for dues.) Teacher educators from each institution were involved in each curriculum council so that each faculty could be prepared for changes coming. With a sense of cooperation and commitment, the IA/TE Service staff was considered a partner in decision making. A similar plan was also instituted among local industrial arts supervisors. When needed, the groups met together—again, as a team learning from one another and gaining consensus. Another example of building commitment occurs when a committee develops curriculum materials. In summary, we believed the IA/TE Service could be more effective facilitating progress for our field by engaging representatives in group decision making about the future, leading to their commitment, than by our unilateral directions.

### Giving Technical Assistance

Giving technical assistance meant answering an array of needs and requests from administrators and teachers. We strived to develop rapport with professionals so we could have effective dialogue and share ideas. Assistance included drawing attention to unfolding opportunities for teachers to have additional preparation or resources to deliver a more relevant program. Our work varied from conducting evaluations of programs and/or facilities, to recommending improvement plans, to suggesting instructional resources or methods, to guiding the development of grants for funding and to assist in planning new programs and facilities. We divided the state into three geographic regions so that teachers would have ready access to an IA/TE specialist/supervisor for help. Each supervisor also assumed leadership each year for at least one statewide activity that varied annually; e.g., annual teacher conference, curriculum initiative, or special event/program. Technical assistance was strengthened by the support of a curriculum specialist, a student organization specialist, and the coordination of the lead supervisor.

### Curriculum Improvement and Development

Determining the correct guide to prepare was determined from an overall curriculum improvement plan, which was the report of a study group. Identified as the IA/TE curriculum council, this group would study, consider, and reach consensus on what the total curriculum should be within three to five years. The first council drew upon four professionals whom we considered to

be the field's futurists: Donald A. Maley (University of Maryland), Delmar W. Olson (North Carolina State University), Donald G. Lux (The Ohio State University), and Paul W. DeVore (West Virginia University). Their collective view set parameters for what our first curriculum council agreed should be contained in the *Industrial Arts Guide for School Administrators* (January 1970). Curriculum councils were established again in 1975 and 1986 to propose the future public school curriculum. Both groups were led by Bill Dugger, Program Leader at Virginia Tech. The '75 council's two-year study was released in 1977 as *The Industrial Arts Curriculum K-12*. The '86 council included several representatives from business and engineering and used subgroups to gain input from personnel across five regions of the state. That two-year study was published in 1988 as *The Technology Education Curriculum K-12*. These overall plans identified what the IA/TE Service was committed to support with curriculum and financial resources as well as in-service offerings.

Curriculum guides followed a similar plan of involving a cross-section of the field—teachers, university faculty, local supervisors, and state staff. Often the chairperson was a teacher educator. Our office was responsible for producing forty-six (46) publications or curriculum resources while I was there. Another nine (9) were prepared between 1966 and 1969. These were made by appointed study/work committees of persons in our field (each included teachers, teacher educator(s), supervisor(s), and at least one from the state office staff). We brought in consultants as the need arose. The leader was always from the IA/TE profession and could be from any of those four groups.

### Providing Conferences

Each year we sponsored at least three conferences for the profession. (Our office reimbursed the school system for costs incurred by participants.) During early August a statewide three-to four-day conference was offered for all IA/TE teachers, and all IA/TE supervisors and teacher educators were also encouraged to participate. During the winter a two- to three-day conference for local supervisors was held, usually in Richmond. The teacher educators' annual meeting was usually a two-day conference timed between summer school sessions. Additionally, we supported professional personnel who attended the students' leadership conference in mid-May. The state's AIASA/TSA event was coordinated and managed by the student organization specialist, who had assistance from the entire IA/TE staff, including administrative assistants.

### Disseminating Information

Beginning in 1969 with the establishment of the industrial arts state office, we knew communications were crucial and had to

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be effective for everyone. Therefore, we compiled a *Directory of Industrial Arts Teachers* showing teaching assignments that continued annually, so that everyone would know more about one another and subjects being offered. A quarterly newsletter was mailed to all IA teachers and secondary principals that featured news about coming events, available materials, services, and opportunities for in-service classes.

### **What were three of the most important happenings or events that occurred within our field during your career?**

Confining my response to the top three happenings during my thirty-nine year career, I must identify those that I view as setting off a series of positive developments.

#### **Association Executive**

The first happened near the time I began teaching. Ivan Hostetler was AIAA President (1960-61) when the position of Executive Secretary/Treasurer changed from a volunteer's job to a full-time employee, with an office and clerical support in the NEA Building in Washington, DC. Kenneth E. Dawson, a recent doctoral graduate of the University of Maryland, was selected and vigorously promoted the importance of industrial arts to other discipline fields with associations headquartered nearby. Importantly, he established strategic communications with leaders in business, industry, and the U.S. Congress. He also did the same for IA teachers through new publications. The association's magazine, *The Industrial Arts Teacher*, was upgraded in content as well as with color, which helped teachers and others perceive IA with greater importance. Dawson worked successfully with congressional leaders to name industrial arts as eligible for federal funds through the Elementary and Secondary Education Act of 1965, the Higher Education Act of 1965, and the National Defense Education Act of 1958. The point is that having a productive professional organization demands more than enthusiastic volunteers. An executive who knows the field and how to guide the association to accomplish what is most important is essential for success. If it were not for the work of our first employed Executive Secretary/Treasurer bringing improved name recognition to the field, its continuing progress may have soon ended. An early example of a national benefit was the series of the NDEA industrial arts institutes, beginning in the summer of '66, which began the field's revitalization to bring more value to learners.

I cite Dawson's early years as an example of the great progress wrought from an executive who fully comprehends our field and its potential along with those classical executive skills to guide an enterprise controlled by a board of directors. In sum-

mary, through these several years, our association executives continued the practices of: bringing improved recognition of our field, securing identity in education legislation, bringing cooperation and teamwork between interest areas, unifying commitment toward a field of study for all learners, and producing and/or encouraging professional services and products that keep programs current with today's needs. The 1960 decision to employ an association executive strengthened the field's prominence and potential. Each of these persons deserves our thanks and praise for progress during their tenure: Ken Dawson, Howard Decker, Ed Kabakjian, Don Rathburn, and Kendall Starkweather, DTE.

#### **Legislative Recognition**

This second very important item was previously mentioned because it began with the detailed work and relentless pursuit of the AIAA's paid executive to build relationships and develop understanding with members of congress to include our field by name in federal legislation. I observed both Ed Kabakjian and Kendall Starkweather continue this practice. Benefits of the various funding are more extensive than may be first considered, but the initial NDEA institutes began a revitalization that influenced our field to be what it is now. Likewise, legislation supporting research grants, innovative programs, and major curriculum initiatives, as well as those that supported teacher pay, school equipment, and instructional materials activate the "domino effect" for school subjects that carries forward to learners.

#### **National Curriculum Efforts**

During the late '60s and early '70s several curriculum projects based at major universities across the nation began to release or publish commercial materials to offer a fresh approach to teaching about modern industry and technology. This was welcomed by teachers, supervisors, and administrators wanting to be more effective in teaching the content that was advocated by many, but with few concrete examples. Among the better known were the American Industry Project at University of Wisconsin-Stout, the Industrial Arts Curriculum Project (IACP) at The Ohio State University, and the Maryland Plan at the University of Maryland. These programs or approaches brought vast changes to the public schools at the secondary level, especially Grades 6-9. Their influence continues.

**At the end of your career with the Virginia Department of Education, a major political move was made by a new governor that basically stopped your progressive work. Was there anything that you could have anticipated to avoid that political action?**

It is ironic that we professed that change was a constant one must always anticipate, but when it happened to our operation, we were shocked—indeed, devastated by the inevitable change. The identity, technology education, survived with two technology specialists chosen to work in the new organization. However, the dedicated unit vanished along with its broad purpose to serve the field exclusively by providing various resources and direct technical assistance to technology teachers and school administrators through a staff of six professionals.

This unavoidable political action in early 1991, conceptualized by the new Governor's recently appointed Superintendent of Public Instruction, created a tsunami to the established Virginia Department of Education, including operational policies, practices, and personnel. A new, smaller agency was initiated—half the size of the previous one. It abandoned the concept of subject area leadership charged to assist schools and teachers with instructional improvement and program development. The new VDOE would focus on broader concepts, while the support for instructional improvement and program development would be the obligation of individual school systems. The new professional staff would consist of independent contractors implementing projects designed to improve public education in broad new ways. Some subject area specialists were identified to maintain perspectives of disciplines, but not as an official subject area office or service unit. The overall success of this venture is confirmed by the fact that within 30 months the new leaders, including the superintendent, management theorists, and related change-agents were terminated or had resigned. As this is written, 22 years later, the current VDOE resembles neither that newly conceptualized organization nor what it was before. Virginia's experience demonstrates the imperative to build and sustain a dedicated nongovernmental organization to serve and advance the subject area profession.

Today's Virginia Technology and Engineering Education Association assumes a more responsible role for its profession than it had for those several years. Praise is due to leaders who created a professional association years ago so that this loss of professional support was not as catastrophic as it could have been. Appreciation is found with today's VDOE having a dedicated specialist whose major responsibility is public school technology and engineering education with the support of a student organization specialist.

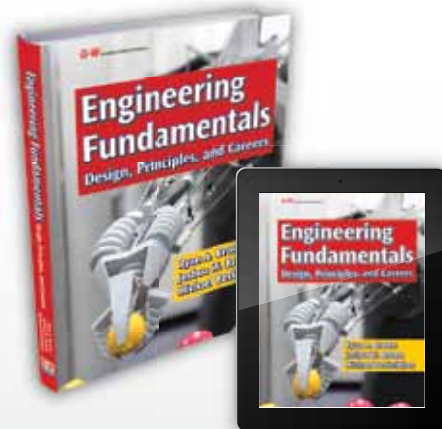
*The Legacy Project has now interviewed four leaders who were very influential to the technology and engineering education profession. It is very beneficial to current (and future) leaders to read about the issues that existed and how they were addressed "back in the day." In a few months the next interview 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.*



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