the legacy project

Leonard F. Sterry

by
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Leonard F. Sterry

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 eighteenth 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. Leonard Sterry.

Dr. Leonard F. Sterry

Place of Birth: Chicago, IL
Married to: Sharon for 55 years

Degrees:
B.S. Industrial Education
M.S. Vocational/Technical Education
Ph.D. Educational Administration

Occupational History:
High School Teacher, Area Coordinator, State Supervisor, University Teacher Educator, ITEA Curriculum Associate, Educational Consulting

Describe the outstanding programs in the State of Wisconsin when you were a supervisor and teacher educator. What did industrial arts/technology education curriculum and instruction look like during the era of the 1970s and 80s?

Prior to this era, industrial arts consisted primarily of coursework in traditional areas such as craft woodworking, metalworking, drafting, and the like. There was little discussion of curriculum and more about exchanging project ideas. But then things began to change. For one, the field began to feel the impact of the innovations of the 1960s and early 70s. While there were many across the country, we had two significant initiatives in Wisconsin, namely the American Industry Project at the University of Wisconsin-Stout and Industriology at the University of Wisconsin-Platteville. These projects were aimed largely at addressing our long-standing objective of helping students to understand industry and its role in society.

Although the innovations of the 60s and 70s seemed perfectly reasonable when measured against our objective of "understanding industry," they were met with some resistance across the country by many teachers, supervisors, and teacher educators. But the projects had an impact, and not everyone resisted the potential change. Although many projects did not survive as originally intended, they had an impact on some school programs and, possibly more importantly, they established a base for continued local, state, and national curriculum work in our field. In Wisconsin we didn't have a state-level industrial arts curriculum guide for decades. So during the early 70s we developed a state guide with a committee consisting of teachers, supervisors, and teacher educators representing our traditions as well as American Industry and Industriology.

During the 70s-80s era industrial arts provided students with hands-on lab experiences that were applied in a variety of ways. Some students simply enjoyed the lab work, while others developed entry-level marketable skills. In Wisconsin there wasn't much of a differentiation between industrial arts and trade and industrial education. Back then technology was less sophisticated, so it was possible for students to be employed in some entry-level occupations directly out of high school. But even then, they were encouraged to get at least some post-secondary education. We had a close relationship between secondary and postsecondary education.

However, we were beginning to feel the impact of the Vocational Education Act (VEA) of 1963 in a positive way. Wisconsin elected to implement the legislation by developing programs in the comprehensive high school setting. This was accomplished by using existing labs, expanding some, and in a few cases building new ones. Funding could now be used to upgrade equipment and provide professional development. To qualify for funding, teachers needed to have some related work experience. But these were all B.S. degreed and already certified teachers. So for a portion of a day they would teach general education applications and part of the day toward career-oriented objectives. Because Industrial Arts and T&I were more similar than different, the Industrial Education concept evolved. Importantly, middle school programs were also strengthened during this time, even though they were not funded by the 1963 legislation. Industrial arts funding came later when it was included in the '68 and '72 amendments to the 1963 Act, as I recall. Several of us were invited to provide input to writing the rules and regulations for these amendments.

As technology evolved, discussions started about broadening our content parameters to include a broad range of technologies without abandoning our past. This occurred during the mid 1970s. And although the content wasn't clearly defined, we established a "sandbox" in which to work as new national curriculum initiatives began to evolve in an effort to conceptually define what later became Technology Education. I'll discuss some of these initiatives a little later in this article. However, in the meantime, we moved forward in Wisconsin by making changes for consistency, consistent in that K-12 programs were retitled as technology education, teachers were state certified as technology education, prospective teachers earned B.S. degrees in technology education, and the state association became the

Wisconsin Technology Education Association (WTEA). While these changes were positive and helpful, there was, and still is, a lot of work to be done. But we had a focus. We worked together—K-12 schools and agencies, post-secondary technical, universities, industry, and others.

You were an outstanding teacher, supervisor, and teacher educator during your career in a state that had many innovative programs. How did you and your colleagues make that happen and then have the ability to sustain those programs?

Prior to the mid 1960s, Wisconsin didn't have a state supervisor for any phase of industrial education. As a result, and to their credit, state universities provided leadership largely by way of the teachers they produced. But as already discussed, there was only slow technological innovation and very little call for curricular change during this era. And the state association only held a two-hour meeting in conjunction with the state teacher's association annual conference.

In about 1965, the Wisconsin Department of Public Instruction (DPI) hired a supervisor for T&I education. In 1968 I had the privilege of becoming the first state supervisor for industrial arts at the DPI. The T&I position was funded from the VEA of '63 while the industrial arts position was funded, in part, from the National Defense Education Act (NDEA) after industrial arts was added to that legislation. We shared an office, and that helped to build a relationship between general and career-oriented education that resulted in industrial education and later technology education.

Universities continued to make modest adjustments in the preparation of teachers. But to their credit, they were enormously helpful in building a vibrant and sustainable state association, the Wisconsin Industrial Education Association (WIEA) that later became the Wisconsin Technology Education Association (WTEA). The organization moved from a two-hour-a-year event to a two-day conference, with a variety of programs and vendors helping to support the efforts. Later, regional weekend conferences evolved that combined professional development with some quality family time. An excellent newsletter was also published, with a lot of folks chipping in to help. That initiative continues today. And in keeping with our spirit of togetherness, the association board consisted, and still does, of a balance and wide range of secondary and post-secondary representation.

So in answer to the question, the Wisconsin Department of Public Instruction played a role in coordinating a variety of initiatives, including a focus for technology education as it has evolved from industrial arts to technology and engineering education and potentially on to an ever-expanded role in education, blending the objectives of general and career-oriented education, assisting with certification and preparation of teachers, participating with vibrant state and national associations, and communicating with

educators, policy makers, and the general public. But balancing these emphases can sometimes be challenging. It helps to have a big-picture, long-term and comprehensive view of global conditions and student needs while managing shortsighted quick-fix responses to single issues. With a long-term vision in mind, various initiatives that come along can be considered and, when appropriate, applied to the longer-term vision.

What were the best techniques for getting teachers to try new ideas?

Change is difficult for many. It requires that we move out of our comfort zones and take on some calculated risks. So it's difficult to get teachers to consider new ideas. Teachers who are willing to consider change are probably, to a large degree, self-motivated. They tend to be creative, open-minded, hard working, and realize that their students will be living long, productive lives with rapidly changing technology while participating in a challenging work and life environment.

With that being the case, the leadership challenge was one of providing information and building a rational basis for why a particular change was worthy of consideration. But then it was also important to have training, materials, and whenever possible, some financial support available. Having said this, trying

new ideas is largely a matter of attitude. So those who objectively considered new ideas and change are the ones that deserve credit for improvements in our field and, as a result, benefits to their students. In fact, these were often the teachers who considered new ideas and initiated change. And they were believable because change wasn't just an abstract idea. They were doing it every day with students and, as a result, provided examples for others to consider. As a continued and longer-term investment in program improvement, teacher education introduced new thinking in undergraduate and graduate education. And state and national associations provided a venue for discussion.

How has state and local supervision for the profession changed since the time that you were the Wisconsin Industrial Arts State Supervisor (1970s) until the end of that century (Year 2000)?

Looking way back to when I started as state supervisor for industrial arts, national supervision was mostly committed to supporting traditional content, with little interest in objectively considering the innovations of the time. That's going back to the late 1960s and early 70s. But that changed as some attitudes evolved toward rethinking the content of our field, and new supervisors began serving in that position. Some states had a supervisor, while others did not. In fact, some states actually had more than one supervisor during that era, VA and NY as I recall. But that was highly unusual.

I was actively involved with the American Industrial Arts Association (AIAA) Council for Supervisors until I left supervision and joined the faculty at the University of Wisconsin-Stout in 1978 and became more heavily involved with teacher education. So after that time I can speak primarily on supervision in Wisconsin and am able to say with confidence that we have had outstanding supervisors since then. And I'm proud to say that several were my advisees while they were university students. Although it's a little outside the timeframe you asked me to address, I did want to mention that I later worked with some excellent supervisors as part of the Center to Advance the Teaching of Technology & Science (CATTS) and other initiatives when I joined the ITEA staff as a senior curriculum associate. And what an honor it was to work with these supervisors, leadership persons across the country, the professionals at the ITEA offices, and others committed to technology education and the evolving addition of engineering.

But looking back over the years, I think supervision is still faced with challenges that are similar to those of the past. It's still important to have a comprehensive plan for direction but with flexibility to accommodate new ideas without having narrow, short-term, expedient initiatives derail the plan.

You worked on a significant curriculum project, the Curriculum Implementation Project, also known as the Chicago 10 Project, in the 1980s, designed to take the historic Jackson's Mill Curriculum content to a different level of implementation. Briefly tell us about that project and what it was designed to do.

The *Jackson's Mill Industrial Arts Curriculum Theory* did an outstanding job of framing content for our field, placing it in a broader context of human adaptive systems, and establishing a basis for what later became Technology Education. But although it made an enormous contribution to our field, it was a theory and not a curriculum guide. So there was a gap between theory and practice. That resulted in the *Curriculum Implementation Project* (CIP), sometimes known as the Chicago 10 because ten of us worked on the project at the Technical Foundation of America offices in the Chicago area.

So using the *Jackson's Mill Curriculum Theory* as a framework and drawing upon the innovative projects of the 60s and 70s along with the lab-based history of our field, the Project identified four technological systems. These included manufacturing, construction, communication, and transportation systems. And importantly, these were systems, not clusters! More will be said about this. The Project analyzed these systems, organized the content as a series of courses, established appropriate grade levels, and suggested coursework that could be offered in small, medium-sized, and large school districts.

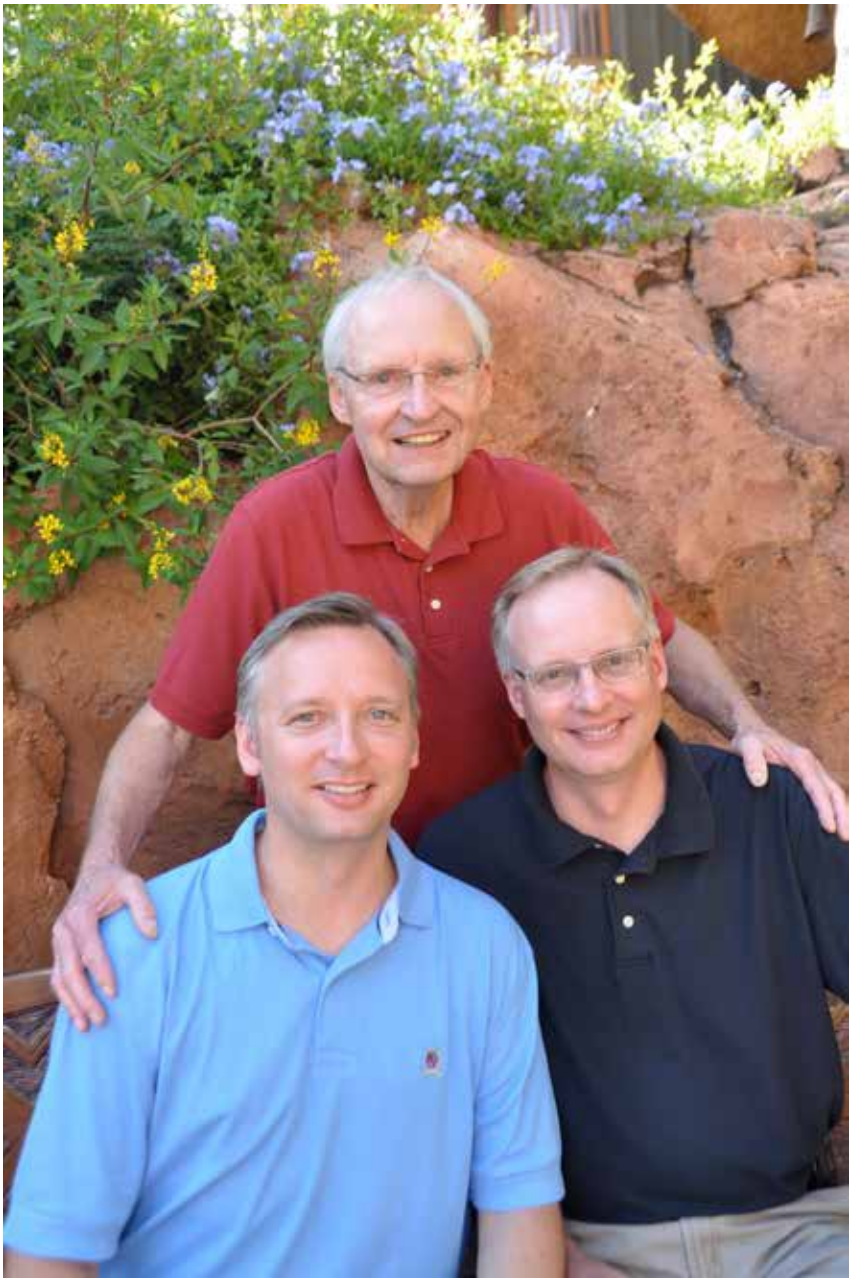
Going back for a moment to systems rather than clusters. For purposes of the Project, systems are an analysis of human adaptive technological activity or depiction of a field for purposes of study. They grow outwardly by adding detail that can be organized as courses for study. Clusters, on the other hand, are headings under which traditional content can be placed. For example, manufacturing is a system and not just a heading for conventional metal machining, welding, and the like. I'm taking time to mention this because of the Project's intent and the attempt by some to use the work for clustering. Admittedly, clustering may have an application elsewhere, but that was not the intent of the *Curriculum Implementation Project*. While on the topic, our more recent Standards were sometimes used as a checklist against which traditional content was measured rather than as a framework for curriculum development as intended. Having said this, I could cite examples where very traditional programs were checked-off against the Standards with a conclusion that the Standards were already being addressed.

But back to the discussion at hand about the Project and an application example. Wisconsin, with permission, published the Curriculum Implementation Project curriculum document as its state curriculum guide. It might be worthy of brief mention that there was another national curriculum initiative, *A Conceptual Framework for Technology Education,* that followed the *Cur-*

riculum Implementation Project and preceded the development of our *Standards for Technological Literacy*. But that Framework is another conversation. However, in Wisconsin we were also developing state standards for technology education, parallel to the development of the national standards. This enabled us to provide input to the national initiative while developing corresponding state standards.

In your opinion, did the profession take the right turns or directions with what has evolved as curriculum in the present day? Why?

Yes, for the most part, but there continues to be a gap between theory and practice. I'm using theory in a very practical sense. It's important to keep us moving forward. But while we see some excellent examples in practice, there still seems to be a strong gravitational pull back to more conventional programs. And there are reasons for why this is the case, some understandable while others not so much.



Len and his sons, Brendon (left) and Brian (right).

I've already mentioned what I'll call theoretical initiatives like the innovations of the 1960s and 70s, the national curriculum projects that followed, and our standards to mention a few. So we've had good direction. These efforts have helped us to expand the scope of our field to include new, emerging, evolving, and enabling technologies while positioning us for technologies of the future. And, the engineering initiative provides a valuable context in which to practice. But within these contexts, we've probably missed some opportunities. Yes, there are positive examples, but we haven't really capitalized on opportunities to the extent possible with, for example, energy and power, information and communication, production and service, business and enterprise, invention and innovation, and the like. But there's nothing new about this observation. Our curriculum guides and standards have already identified with these areas of content. So it's largely a case of minimal implementation and not so much about direction.

Admittedly, technology is advancing rapidly, and I'd venture to say that we haven't seen anything yet. So keeping up in our programs is challenging. It's time-consuming, to a degree costly, and just plain hard work. Having been a high school teacher, I get it. Collectively as a profession, we haven't always provided teachers with the necessary materials, professional development, and resources needed to address these content areas. But in fairness, new ideas haven't always been willingly accepted.

Lately I've been involved with National Science Foundation-Advanced Technological Education (NSF-ATE) projects and centers at the postsecondary level but still get into high schools with some projects. I'm mentioning this because of ATE's attitude about looking forward and taking some calculated risks toward rapid technological change and workforce development. It's exciting, positive, and futuristic, getting ahead of the curve. We might want to consider connecting with some of those projects.

So, in summary, thank you for the opportunity to reminisce a bit. It's been fun to look back and reflect a little. I guess that's what old-timers do. But my orientation is still to the future. It's relatively easy and somewhat comforting to remember the initiatives that went well but a bit painful to identify with efforts where we could

have done better. So using the questions asked of me for this article, I've tried to provide an historical overview of our field as I recall it over the past half-century. Together, I expect we have made a positive difference for our students, communities, and country. So maybe we can learn from our past, build upon it, and continue our efforts well into the future. Thanks again!

Thank you Dr. Sterry for taking the time to recall, and tell us about your part in these significant events in our profession. Your observation about reflecting on the past but focusing on the future should be direction the readers of your Legacy should follow.

The Legacy Project has now interviewed 18 very influential leaders. It is beneficial for 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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Leonard F. Sterry, Ph.D. *Dr. Sterry started his educational career as an industrial education teacher and then became a Regional Vocational Education Coordinator. He went on to be the Wisconsin State Supervisor of Industrial and Technology Education as well as taught new technology education teachers at UW-Stout. He also served as ITEA (ITEEA) Senior Curriculum Associate and NSF-ATE Project evaluator.*