



# the legacy project Donald P. Lauda

BY  
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**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 seventh 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. Donald Lauda.

## Dr. Donald P. Lauda

**Place of Birth:** Leigh, Nebraska; August 7, 1937

**Degrees:**

- Normal Training Elementary Teaching Certificate, State of Nebraska, 1955
- BA in Education, Nebraska State Teachers College, 1963
- MS in Education, Wayne State College, 1964
- Ph.D., Iowa State University, 1966
- One year post-doctoral study, West Virginia University, 1969-70

**Occupational History:**

- U.S. Army, 1957-1959
- J.I. Case Tractor Company (Industrial Engineering Department), 1959-1961
- Teaching Assistant, Wayne State College, 1963-1964
- Teaching Assistant, Iowa State University, 1964-1966

- Associate Director, Communications Center, University of Hawaii, 1966-1967
- Associate Professor, St. Cloud State College (MN), 1967-1969
- Post-doctoral program at West Virginia University, 1969-1970
- Assistant Dean, School of Technology, Indiana State University, 1970-1973
- Department Chair, Technology Education, West Virginia University, 1973-1975
- Dean, School of Technology, Eastern Illinois University, 1975-1983
- Dean, College of Health and Human Services, California State University, Long Beach, 1983-2002
- Grand Jury, Orange County, CA, 2010-2011

**Married to:** Sheila Henderson. Married in Hawaii in 1966.

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*You advocated that the field address technology in the 1960s and beyond. What led you to that conclusion? How successful were you with your efforts in shaping the direction of the profession?*

I graduated from high school in 1955, with industrial arts taken in Grades 7-12. I was committed to becoming a teacher of industrial arts. By the end of my sophomore year I became somewhat disenchanted and bored, so I volunteered for the draft (two years, U.S. Army). After being discharged, I accepted a job with J. I. Case Tractor Co. in Rock Island, IL as a time-and-motion-study engineer. I became interested and intrigued by the cultural environment of the workplace and how change could impact human lives. I didn't articulate it at the time, but this job was the genesis for my interest in industrial sociology. The company announced that it was merging several plants, which would have sent me to Racine, WI. I decided to go back to Nebraska and finish my degree in Industrial Arts.

After a four-year absence, I found the program to be unchanged except the addition of a class in electricity and a class in plastics. In retrospect, I realize that I sensed a disconnect between traditional industrial arts and what was going on in industry. I was unaware of the thinking in the profession advocating for change. Earning a minor in Sociology was pivotal in my writing and speaking within our discipline.

Since I graduated mid-year, I decided to work on my master's degree in Industrial Arts with another minor in Sociology. Fortunately, my graduate advisor had our class read *Selected Readings for Industrial Arts* by Rex Miller and Lee H. Smalley (1963). Chapter 9, Some Final Prognostications, by David Snedden and William E. Warner (1927) got my attention since the first prognostication was titled "Sociological Foundations." The last two chapters—Improving Industrial Arts Education by M. Ray Karnes (1960) and Implications for the Industrial Arts Program (1957) by Delmar W. Olson—furthered my interest in the term "technology." I noted with interest that Karnes referred to technology as the dominant element in our culture, and the social complexities that it brings increasing in importance in deriving educational goals. It was his view that the technological aspect of culture would lead to a central, integrating purpose in industrial arts. I was "hooked." Olson called for a broader program of industrial arts to adequately reflect technology. He also advocated an emphasis on manufacturing, construction, electronics, power, and transportation. This was quite a contrast from wood, metal, and drawing. Karnes and Olson's writing laid the groundwork for my subsequent view of what industrial arts could become.

My thesis was an analysis of industries in northeast Nebraska to see if there was congruence between what industrial arts teachers were teaching and realities of the industries. I also wanted to determine the potential for industrial arts teachers (e.g. tours, speakers). I recently reviewed my thesis, written in 1964, noting the first chapter was titled Society in Transition, and that the term technology was mentioned and defined. Dr. Hoyt H. London came from the University of Missouri as a visiting professor for my oral defense of my thesis. It was my first exposure to someone in our profession who was published and who ran a popular doctoral program.

My interest in sociology was indelible, and when offered a teaching assistantship in Sociology at Texas Tech, I almost accepted. But then another teaching assistantship offer came, this from Iowa State University. I chose the latter. I had a great experience at Iowa State University where I received my Ph.D. My interest in sociology continued as I minored in it for the third time. The Chair of the Sociology Department served on my graduate committee through whom I was able to process ideas about social-cultural impacts of change.

I continued to follow the literature in industrial arts and was interested in the escalating criticism of traditional industrial arts programs. I met Marshall Schmitt, industrial arts specialist for the U.S. Office of Education, shortly after he wrote in the *Journal of Industrial Arts Education* (1967), saying, "The current industrial arts curriculum does not even measure up to the program recommended by the profession 10 to 20 years ago. Industrial arts is lucky to be alive today." I concurred.

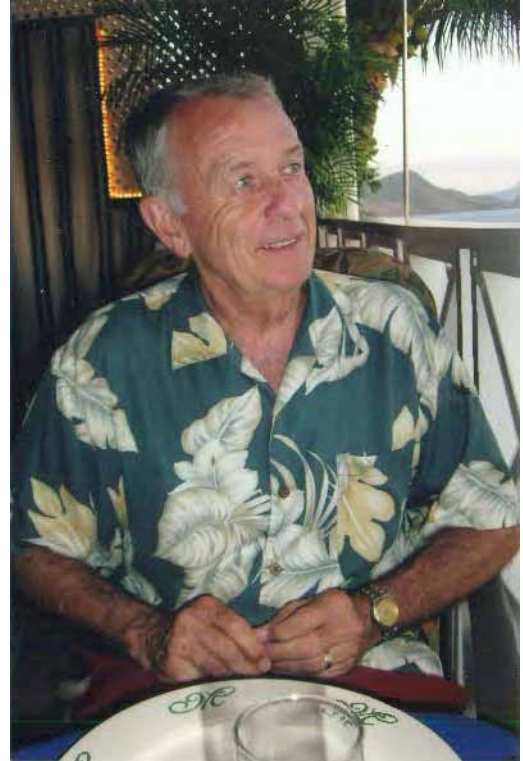
In 1967, sensing there was some positive change in the field with innovative programs surfacing, I decided to attend my first AIAA conference, which was held in Philadelphia. I interviewed with a number of institutions and was hired to rejuvenate a general education course called *Modern Technology and Western Civilization* at St. Cloud State College, MN. Within one year, after a redesign, the course went from one section with 15 students to 12 sections with 50 students. This proved to be a defining moment for my interest in technology and cultural change within our discipline. A graduate course was also approved. Finding a textbook that met the goals of the course was difficult. My colleague, Bob Ryan, and I published a book of readings entitled *Advancing Technology: Its Impact on Society* (Wm. C. Brown Co., 1971). A quote in the foreword coming from Alvin Toffler, author of *Future Shock*, capsulated my view perfectly. He said, "Permanence is dead. Society is changing at an ever-accelerating pace. Technology is both cause and effect of rapid social change. And, unless we understand the dynamic diver-

sity, interplay between technology and society, we cannot make our own future work; instead we will simply react to the surge of events rather than direct them." Little did I know that I would have Toffler as a guest lecturer in my class in 1971, sitting on the floor rapping with my students.

The 1960s was a fascinating decade for innovation and invention, providing a rich database for my interest in technology and society. Moon landings, development of the first working laser, and development of the integrated chip, fiber optics, et al. The 60s brought forth such terms as "counterculture" and "information age." The National Organization for Women was formed, while the Gay Rights Movement escalated. The decade brought the Vietnam War, Civil Rights Act, assassination of President Kennedy, Malcolm X, and Dr. Martin Luther King Jr.; the counterculture movement dominated the news. Artists and musicians had a theme that involved individuality of exploration and openness. The timing was right for Alvin Toffler to write *Future Shock*. The timing was right to change industrial arts.

So, in short, to answer the question of what led me to advocate technology: it was my industrial experience, analyzing the literature in our field, coordinating a course on technology and change, introduction to key individuals on the cutting edge of technology, and, as you might expect, my involvement in sociology. The latter certainly impacted my plea for the inclusion of a study of social-cultural impacts of technology within the curriculum. This was the backdrop I had entering the post-doctoral fellowship at West Virginia University (1969-70). The WVU experience solidified my views about technology and change, providing a credible rationale for supporting the move towards implementation of Technology Education.

I feel I should leave it up to others to say how I might have helped shape the profession. I was adamant about the study of technology as our discipline base with the inclusion of socio-cultural content in curricular efforts. Discussion of social/cultural elements was not readily accepted by many traditionalists. My bid was consistent through lectures, writing, and serving on the AIAA/ITEA and ACIATE/CTTE boards. I was fortunate to be involved in seminal projects allowing me to learn from colleagues throughout the country. Perhaps my greatest contribution was to implement with my colleagues the first Technology Education program in the country at Eastern Illinois University. I know my most pronounced feeling of satisfaction came from engaging students, whether in general education or majors in Technology Education.



***You were part of a select group of graduate fellows at West Virginia University studying technology and society. What were the goals related to that special research effort, and what did it accomplish for the profession?***

I was at St. Cloud State College totally satisfied with my assignment when an announcement came of a post-doctoral opportunity at West Virginia University (1969). Paul DeVore and Thomas Brennan were co-directors. I was aware of Dr. DeVore's writing, especially *Technology: An Intellectual Discipline*. Five persons with a doctoral degree and five who would work on their doctoral degree were selected.

Essentially the program focused on leadership development and the critical problem of program development for teacher education in the technologies. Attention was directed toward the development of curricula that would meet the technical and social/cultural needs of youth in a technological society.

The ten fellows bonded quickly and accepted the challenge without predetermined mandates by the directors. Our pursuit allowed us to examine a wide range of sources of input (e.g., incredible speakers, one week researching in Washington at the Patent office, and Museum of Science and Industry). We divided into groups of two to go into the field for a week to experience

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hard-core Appalachian living or inner city life in Pittsburgh, making home and school visits.

We benefitted from analyzing new models proposed in industrial arts teacher education (e.g. Ohio State, Maryland). Also of interest was the work of Harvard University, which provided the Program on Technology and Society (1968). We were fortunate to have such a large database to draw from and ample time to digest and reflect. Key terms arose in our discussions (e.g. post-industrial, futurism, technological forecasting, global village, technology assessment, information age, and finite resources-infinite demand). We reviewed trends in our discipline, trends in the development of science and technology, as well as social-cultural change.

We worked on defining the word "technology," eliciting information from such writers as Jaques Ellul (*Technological Society*, 1964), Melvin Kranzberg (*Technology and Culture: Dimensions for Exploration*, 1964), V. Ferkiss (*Technological Man: the Myth and the Reality*, 1969). Two approaches to technology education were presented in our final document, *Industrial Arts Teacher Education Fellowship Program in the Technologies 1969-1970*. These were: (1) Rationale and Structure of a Model Program for the Education of Teacher Scholars in Technology and (2) Technology—A Base for Industrial Arts Teacher Education.

The program ended with a consensus that the study of technology was a viable base for delivering industrial arts to make it congruent with trends in innovation, invention, discovery, and concomitant social change. The project concluded that (1) the study of technology was the most valid discipline base for industrial arts, (2) programs should place prime emphasis on the interdisciplinary nature of technology, (3) transportation, communication, and production are the basic areas of study, (4) the discipline needs laboratories with R&D, experimentation, and development and (5) the total program should be learner-oriented and activity-based. The group focused on a total integration of knowledge and the development of a teacher-scholar. Inclusion of the elements of technology (technical and socio-cultural) satisfied my sociological bent.

At the conclusion of the WVU project I was surprised, yet elated, at the inquiries concerning what the project was for and what it proffered. I made a large number of presentations at conferences, workshops, and institutions. During this time I sensed a positive interest in the acceptance of technology as a primary determinant for curriculum in industrial arts. Hesitancy on acceptance of our work had to do with the inclusion of social/cultural elements in the curriculum.

Five participants remained to finish their Ed.D. The other five individuals returned to their respective institutions, with the exception of one...me. I became an Assistant Dean in the School of Technology at Indiana State University. This gave me the opportunity to engage with another leader, Lewis Yoho, who advocated a systems model for the discipline. It was there that I was offered the opportunity to teach several technology and culture courses in an experimental general education program as well as a futures workshop with 20 high school seniors, including two from England. Eventually this led to bringing Alvin Toffler into my class and two meetings with Buckminster Fuller.

***Jackson's Mill Curriculum evolved during your career. What was that, and what did it do for the profession? How did the profession end up responding to that curriculum direction?***

James Snyder, West Virginia State Department of Education, and James Hales, Fairmont State College, designed this project in 1980 to provide a rationale and direction for the future of industrial arts. Using a modified Delphi technique they selected two leaders in the discipline and asked them to identify the next two leaders. This process was repeated until the same names began to appear, thereby reaching consensus. Twenty-one individuals were identified: teacher educators (16), public school personnel (3) State department personnel (1) and the AIAA director. We were in the midst of developing the first program in Technology Education at Eastern Illinois University at this time. The timing was perfect to process theories and strategies with the top individuals in our discipline.

The group was asked to assess the relationship of industrial arts to comprehensive education and seek new models if appropriate, reaching a consensus if possible while considering the outcome "a work in progress." The group began its efforts with a broad discussion of societal trends, our heritage, curricular models in the discipline, efforts of other disciplines, needs of children, etc. This was a great "warm-up" exercise and a chance for positioning opinions. Potential roadblocks were: (a) our discipline might restrict our thinking, (b) the group might fail to look at interdisciplinary possibilities, (c) the obvious division in philosophy, (d) the discussion of sociological and ideological elements of the human adaptive systems might meet resistance since traditionally the discipline had not focused on values, norms, institutional responses to change, and their relationships. Considering the wide range of experience by the participants, I thought the group did a great job shedding preconceived notions, ego, and bias. This is not to say there wasn't vigorous debate, there was, but with due respect for each other. Eventually, an outline began to take form that included:

1. A base for curriculum derivation, which became a discussion of society and culture.
2. Domains of knowledge (sciences, humanities, technologies, and formal knowledge).
3. Human adaptive systems (technological, sociological, ideological) existing in our natural human-made environment.

The interaction between items 2 and 3 led to:

1. A universal systems model (input-process-output-feedback which has helped bring order to human actions. This included an analysis of inputs (people, knowledge, materials, energy, capital).
2. Implementation (learner, program levels, learning models, state and local models).
3. A definition of the discipline.

The domains of knowledge were agreed upon to be based on input from the literature (sociology and anthropology). The human adaptive system discussion was lengthy, but the interaction between the domains of knowledge and the human adaptive systems was agreed to. Vigorous debate ensued over the fundamental technological systems. Considered for adoption was production, transportation, communication, power and energy, even biotechnology. Ultimately the group compromised, adopting manufacturing, construction, transportation and communication.

When closure came to the project I felt the group had coalesced, having generated a curricular theory that would lead to sustained conversation in our discipline. The final document, *Jackson's Mill Industrial Arts Curriculum Theory*, authored by Snyder J. and Hales, J. was well received within the profession. I have no way of documenting specific impacts in institutions but note that it has been cited in a large number of seminal documents including *Standards for Technological Literacy*, cited in at least six CTTE yearbooks, ITEA documents, MVITEC, and was used extensively in the development of the contemporary program at Eastern Illinois University.

One might ask, "Did this project influence the *Conceptual Framework for Technology Education*, the move from AIAA to ITEA, changes in the councils, the movement at statewide levels such as New York and the Industry and Technology Education Project (Chicago 10)?" I cannot quantify the project's impact, but I remain convinced it was a game changer for the profession.

*You created one of the most contemporary university departments at Eastern Illinois University (EIU) when you were Dean of the School of Technology. Please describe that department and its philosophical uniqueness for that time in our history.*

In 1975 the School of Industrial Arts at EIU was comprised of undergraduate degrees in Industrial Arts and Industrial Technology, and a graduate program in Industrial Arts. The Industrial Arts program was very traditional, offering woodworking, drafting, graphic arts, metalworking, and electricity/electronics power with traditional unit labs. The challenge was to change the culture of a traditional program to one based on the study of technology.

In September 1975 a framework (discussion paper) was presented to the total faculty for their consideration. The discussion paper did not list course changes but called for a study of technology as the discipline base, with transportation, production, and communication as the content organizers. It also called for the inclusion of social/cultural elements. This radical departure from "what was" received mixed reviews.

In October a second proposal was presented to the faculty that included:

- Change the name of the School to the School of Technology.
- Replace introductory skill classes with three courses, one in each of the content organizers.
- Drop 66 semester hours, adding 59 s.h. in new courses.
- Offer a general education class to serve as an introduction to technology, required of majors.
- Provide large, open-space laboratories.
- Utilize team teaching in the three beginning classes as well as the general education course.
- Require a course based on *The Ascent of Man*.
- Require a culminating course on research and development.
- Require a computer course.
- Restructure the graduate program to reflect a study of technology and be able to accommodate nonmajors.

On February 10, 1976, a proposal for changing the School was presented to the President, Vice Presidents, Graduate Dean, and the chairs of all three academic committees. At the same time, approval from the Illinois Department of Education was solicited. Approval was well received at all levels. The programs (undergraduate and graduate) were implemented in the fall of 1976 and underwent three revisions (1979, 1981, 1983) based

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on input from faculty and students. Input from student teachers was especially helpful. By the end of the second year we remodeled the facility, creating large open/flexible labs for each content organizer while retaining labs for drafting, elementary industrial arts, and industrial technology. Students gained basic instruction on tools, materials, and processes in the introductory course for each content organizer. These were team-taught. In 1983 all upper division technical courses were revised, resulting in the dropping of 41 s.h. and adding 11 courses (34 s.h.). Majors in the two programs shared many courses, so changes had to take into account the integrity of both degrees.

Including socio-cultural elements in the curriculum was essential. Two courses were designed as an introduction: (1) *Technological Systems* was unique in that we used four professors. The first three weeks was used to define the term and discuss its impact on society. This was followed by a different professor in each content organizer teaching for three weeks focusing on the past, present, and future of their area. This course was approved for general education university-wide, which helped position the School among other disciplines. (2) *Ascent of Man* (Jacob Bronowski, 1972) illuminated the historical and social context of human invention. Eventually a new course was added, *Technological Connections*, based on the work of James Burke. These courses, along with emphasis of socio-cultural elements in lab classes, proved to captivate interest in the students. Courses in the professional sequence were changed to reflect technology education in public schools. Students could see the advantages of technology education, and many began to openly question the value of industrial arts.

The timing of the Jackson's Mills Conference could not have been better, providing direction from top leaders in our field. Excellent input also came through the Technology Education Symposium started at EIU in 1980. The symposium remained a strong advocate for change and offered opportunity to exchange ideas in the profession. It continued for six years.

The existing MS degree was typical, with emphasis on the philosophy, structure, and supervision of school programs. The faculty decided to develop a more flexible degree to accommodate both teachers and noneducation majors. The program for teachers focused on the study of technology (e.g. curriculum, teaching strategies). A key curricular shift was to require all MS majors to take three courses (*Readings in Technology, Technical Developments in Technology, and Contemporary Problems in Technology*). This combination provided for excellent dialogue. The remainder of the degree for nonteaching majors allowed students to customize their program to fit their profes-

sional needs. Its uniqueness at that time was:

- Adoption of the study of technology as the discipline base.
- Its final form was based on seven years of research and implementation resulting in three revisions.
- The entire school was changed (conceptually and physically), requiring approval at the school, university, and system levels as well as the state certification board.
- It moved from technical/unit laboratories to large open-space laboratories designed for flexibility.
- Decreased emphasis on the "project method," with more emphasis on innovation and invention.
- Contributed to university-wide general education.
- Included the study of socio-cultural impacts of technology on humans and the environment.
- It was shown that the program is transferable to K-12 at low cost.
- Existing laboratories can easily be converted to accommodate Technology Education.
- The study of technology is interdisciplinary, allowing for interaction with other disciplines.
- It provides an excellent base for students moving into vocational education or university level education.
- An increase in the number of females at both the undergraduate and graduate levels.
- The contribution faculty made to the literature on Technology Education.
- The change in the mind-set of students recognizing the value of moving from Industrial Arts to Technology Education.

The bottom line is, did the culture of the school change? The positive attitudes, knowledge, and behavior toward technology as a discipline base became the norm. Indeed, the culture was changed and proved to be beneficial for students and their careers.

### *What lessons did you learn during your career that might be helpful to today's educators?*

Allow me to generate a list of commonsense items:

- Family comes first, their health and happiness. Nothing should trump that.
- Respect every individual, student, faculty, staff, alumnus/alumna for who they are.
- Maintain currency in your field.
- Learn from history but don't allow it to dominate your need for creative thinking.
- If you aren't happy in doing what you do, get out; life is too short. I know it is the email/texting age, but never lose sight of the power of personal contact.

- Over-prepare for critical meetings—anticipate, anticipate, and anticipate.
- Think globally.
- Trust yourself. This is easy to do if you stay prepared in your discipline. Be your own advocate.
- Remember, the social and emotional climate of your classroom are pathways or impediments to learning.

*Thank you Dr. Lauda for providing us with some history of our profession and your legacy. The Legacy Project has now interviewed seven 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](mailto:johnnyjmoye@gmail.com).