The Hidden History of Career and Technology Education in Oklahoma

A Treasury of Stories

Compiled by Craig Maile

March 2024

"This historical account is dedicated to all those persons, past and present, who have assisted in making Oklahoma vocational education the envy of other states, while developing our greatest resource—people."

—Roy P. Stewart, *Programs for People* (1982)

"If reading this history teaches others just a fraction of what its writing has taught me, they will be the richer for it indeed. I began knowing little; I ended in absolute awe. In between is my growing appreciation for the history of vocational education in Oklahoma, especially for what that history means to Oklahoma."

—Danney Goble, *Learning to Earn* (2004)

Editor's Note

The idea for this book took some time to develop. Since I began work with the state agency in 1986, I had learned a lot about the history of vocational and technical education in Oklahoma—in fact, I had learned all I knew. I had come to vocational education directly from college and to college from another state. That college had been Oklahoma State University in Stillwater, the headquarters of the state vocational education agency, but I still knew nothing about vocational education in Oklahoma. That is, until a technical writing project in my senior year led me to the Curriculum and Instructional Materials Center—the name of the curriculum division of the state agency—and its coordinator at the time, Bob Patton. Eventually, I read the published histories of the vocational education system in Oklahoma, especially the books by Roy P. Stewart and Danney Goble. It became evident to me that I had worked alongside many of the key figures at the state agency who helped shape the system we know today as career and technology education.

The title for this book came from a magazine from the 1980s that featured a cover story about "Oklahoma's Hidden Treasure"—its vocational education system. Shown on the cover was a photo of Lon Shealy, then the CEO of the Star Manufacturing Company in Oklahoma City.

Lon Shealy later served as a consultant during a strategic planning initiative and curriculum project in which I played a part as a technical writer. Lon was passionate about planning, both in business and in life. He once spoke to me about the need for a strategic plan for my own life, over lunch in Guthrie. As it turned out, I could not have planned the career I enjoyed in vocational education in Oklahoma, but I accepted a plan that seemed to unfold before me. However, that cover story title remained with me for almost 40 years, as did the image of Lon Shealy, so I thought this book title was both appropriate to the purpose and in memory of a colleague with a passion for personal growth.

This book is mainly a compilation. The authors of the snippets presented on these pages are best appreciated by reading their complete original works. My goal in producing this treasury is to provide another framework for appreciating the history of career and technology education in Oklahoma. It was also important to me to present the written histories in a way that could make them useful as inspiration during a career, rather than near the end of one.

—Craig Maile, CIMC staff (1986-2018)

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A Legacy of Pioneering and Progress

TREASURE CHEST 1

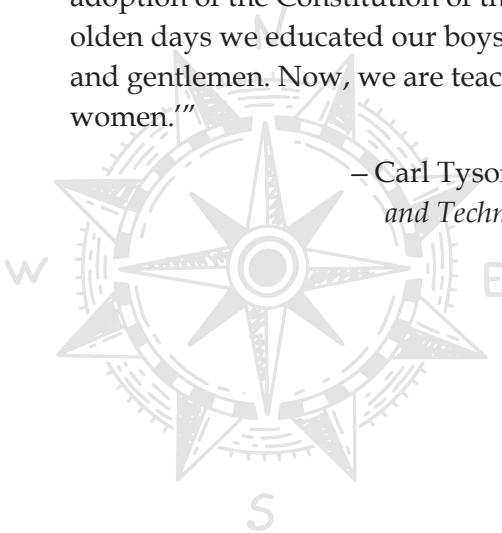
"The Greatest Blessing to Come to This Republic"

"[I]n his address to the state teachers' annual meeting, held in Oklahoma City on the last three days of December, 1909, State Superintendent of Public Instruction, E.D. Cameron emphasized Oklahoma's leadership in the area of vocational education by stating:

'I want to especially call the attention of the teachers and the people of the State to our great public school system of industrial education. As has often been said, the Constitution of Oklahoma is the only constitution in the world that provides for the teaching of Agriculture, Horticulture, Domestic Science…and Stock Feeding in all the schools of the State….

'I believe that this wave of industrial education that has spread over the United States in the last few years, finding its culmination in Oklahoma, the youngest State, is the greatest blessing to come to this republic since the adoption of the Constitution of the United States. In the olden days we educated our boys and girls to be ladies and gentlemen. Now, we are teaching them to be men and women.'"

– Carl Tyson, *The History of Vocational and Technical Education in Oklahoma*



Sooner Than Statehood

"Oklahoma was one of the twenty-nine states offering vocational training years before the Smith-Hughes Act created a federal system. In a sense, vocational education was in Oklahoma even when there was no Oklahoma—more accurately, when there was no Oklahoma on the map."

—Danney Goble, *Learning to Earn*

Present at the Creation

"…["Alfalfa Bill"] Murray was determined to mold a constitution to fit a new state—a new kind of state, in fact. To that end, he and his lieutenants lay before the convention nearly every possible theory on nearly every aspect of governance. Not every notion or nostrum made it to the final constitution, but enough did to take up 50,000 words.

"One relatively small and straightforward set of those words comprised a full section of the general article on education:

The Legislature shall provide for the teaching of the elements of agriculture, horticulture, stock feeding, and domestic science in the common schools of the State. (Article 13, section 7)

"That is how Oklahoma entered the union bearing the longest constitution yet fashioned by human hands, a constitution that also made Oklahoma the only state to offer vocational training from the instant of its statehood—not to mention the only state that ever did that by constitutional mandate. With Murray serving as Speaker of the House, the state's first legislature thereupon added something else: the very statute once successfully blocked by territorial teachers:

After July 1, 1909, no person shall teach...in the public schools receiving aid from this State, who has not passed a satisfactory examination in the elements of Agriculture and allied branches."

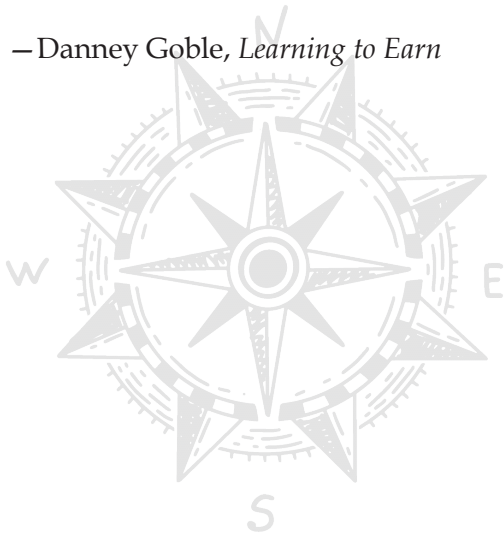
—Danney Goble, *Learning to Earn*

In the Hearts of Oklahomans

"Although the state's constitution had explicitly required technical education in only its elementary agricultural and domestic forms, quite a few communities developed on their own what was still called manual training….

"Even before statehood, schools in Lawton, Comanche, and Ardmore had joined Oklahoma City with successful manual training programs. Muskogee's Superintendent Charles W. Briles added that city to the list in 1908. Eight years later (but still a full year before the Smith-Hughes Act) some ninety Oklahoma schools were offering manual training. Two were preparatory schools, one at Tonkawa, the other at Claremore. As secondary schools they were exceptional, partly for their purpose, mostly because they were funded entirely by the state. They also were proof that where Oklahoma put its money, there its heart was, too. Both included as part of their college preparatory curriculum full complements of vocational courses in all of their forms."

—Danney Goble, *Learning to Earn*

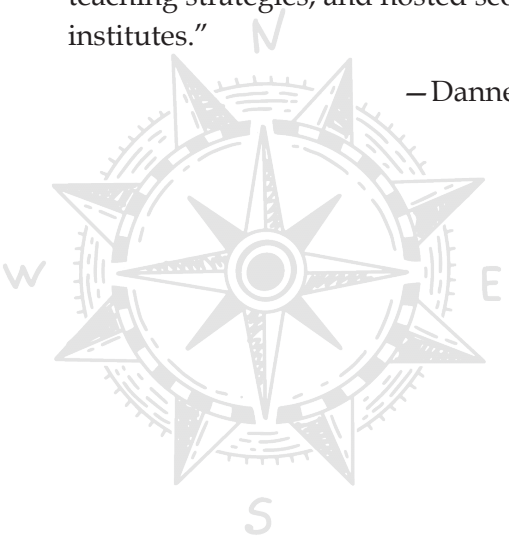


AG Came First at A&M

"…Alone of the state colleges (there soon were ten, and more were on the way), Oklahoma A.&M. College was the only one ready to educate the educators, at least to educate them 'in the elements of Agriculture and allied branches.' Moreover, the lawmakers had seen to it that only the A.&M. college had something called a 'Chair of Agriculture for the Schools.' Established and funded by the First Legislature, it also had been assigned to there by law. The same law also declared that the chair's occupant was 'to direct and advise in all matters relating to the teaching of agriculture and allied subjects in the common schools.'

"Probably not more than a dozen of the lawmakers who lined up behind those words had the faintest sense of what they meant, but that was no matter. Professor John Fields did know. Professor T. M. Jeffords, the first to hold the chair, knew, too. With help from Fields and others, Jeffords prepared model curricula, printed and distributed creative teaching strategies, and hosted scores of teacher-training institutes."

—Danney Goble, *Learning to Earn*



Take the Money and Run

"Oklahoma took the money. Every other state did, too, but not as swiftly and not as eagerly. On March 24, 1917, four weeks and a day after the president had signed the Smith-Hughes Act, Oklahoma officially accepted its terms. In approving House Bill 213, the legislature and governor pledged 'the good faith of the state...to meet all conditions necessary' to put Oklahoma in line with the new federal law. Oklahoma thereby made Washington's vision of organization, purpose, design, and oversight Oklahoma's vision, too."

—Danney Goble, *Learning to Earn*

Joining the Pieces of the Crazy-Quilt

"The national system was neither national nor a system. It was a crazy-quilt—except that this quilt's many pieces were not even joined. State governments had neither the power nor the means to change that. The federal government had both the authority and the ability, though. So, it had the obligation, too. The federal government had to act.

"Herein lay the real importance of the Smith-Hughes Act. Everything changed when President Wilson signed that law, on February 23, 1917. At that instant, the evolution of vocational education became an example of what biologists call punctuated equilibrium. Everywhere, not just in Oklahoma, the entire ecology of American vocational training changed, not slowly but immediately, not subtly but entirely. Only the fit survived—more accurately, the survivors were those that managed to fit themselves to the new environment."

—Danney Goble, *Learning to Earn*

Vocational Education Arrives Sooner in Oklahoma

"The state plan for Oklahoma was approved in November of 1917 by the U.S. Office of Education, but not all schools had waited. There had been 28 requests approved by the time the state plan was accepted in Washington. Among the first schools to offer vocational education were Oklahoma City, Tulsa, Guthrie, Amber, Cushing, Claremore, Enid, and Chandler."

—Roy P. Stewart, *Programs for People*

Special from the Start

"The state's share from the first year's federal appropriations to train vocational teachers was not large (just over $9,000) but neither was it insignificant—on the contrary. The mere fact that the money existed made vocational schooling a very special category of education, seemingly of such singular national importance that only vocational teaching deserved the nation's investment. Because Smith-Hughes money had to be matched with special state appropriations, too, the effects were multiplied. Vocational training really was special."

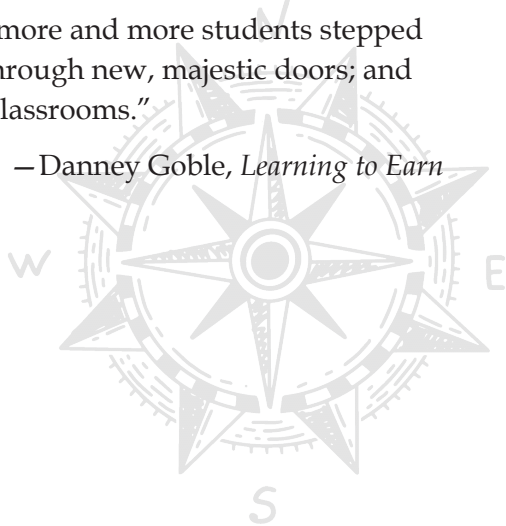
—Danney Goble, *Learning to Earn*

Monuments to Progress in the Roaring Twenties

"In Seminole, Lawton, and McAlester; in Ponca City, Purcell, and Ardmore; in Enid, Woodward, and Lawton—in city after city and in town after town, new money just seemed to pour in. New residents came, and new public buildings arose. None were more impressive than the new school buildings, particularly their high school buildings. Many resembled monuments, and that was altogether appropriate. The reason was that they were monuments, monuments to progress.

"Progress assumed other physical forms, not necessarily as imposing but not less important either. One was the school bus. School buses took students to schools, and they brought schools to town. Because of buses, Oklahoma was able to consolidate any number of its underfunded, sparsely populated rural districts. Buses delivered enough students to fill a high school. Buses put almost every boy and girl within reasonable distance of some Oklahoma high school. Every year, more and more students stepped off those buses; passed through new, majestic doors; and stepped into vocational classrooms."

—Danney Goble, *Learning to Earn*



An Unposed Snapshot of Early Vocational Education

"There are better ways to tell this story than by numbers, though. From time to time, one gets what amounts to a quick glimpse of a snapshot, an unposed picture of vocational education in its earliest years. J. W. Bridges, then the state's supervisor for agricultural education, unintendingly left us one, attached to a routine report on the last quarter of 1921. It was an account, supplied by one agricultural teacher, of what he had been up to lately.

"This unidentified teacher reported that he had started his boys on five poultry, two cotton, one hog, one kaffir corn, and three potato projects. Two kids already had taken first prizes at the county poultry show; two others had won either second- or third-place ribbons. As group projects, his class had built two concrete poultry houses and had furnished them with nests, roosts, and dropping boards. Four students had built their own oat spreaders, too.

"The teacher had founded a boys club (with a charter class of fifteen), and his boys had been treating the entire community to programs and plays. He also had advised some of the farmers as they had organized their first township fair. He would be helping again in the fall because he expected to manage the event. He had cleaned up the school grounds and had designed a landscape scheme. Soon he would be laying out gravel walkways, putting in flower beds, and planting the first trees.

"His own classroom had all new furnishings: tables, bookcases, and filing boxes he had built himself. He had stocked the room with timely agricultural bulletins, and he had been able to decorate it with quite a few photographs

and other items. He said these gave the room 'a very agricultural appearance.'

"Altogether, that was not bad, not bad at all. In fact, it was downright staggering: This was the teacher's summary of what he had done in his first semester on the job."

—Danney Goble, *Learning to Earn*

Mining for Industry Training

"…Down in Haileyville, a little town in the middle of Oklahoma's still-active coal mining district, T&I had put on a three-week conference for mining foremen [in 1921]. Five companies sent all of their foremen and kept them on the payroll while there. Along with new methods for supervision and management, the men learned what and how to teach those who worked under them. The conference left behind a continuing project, one in which local schools taught basic mathematics and science for miners while the newly trained foremen applied those academic principles to practical mining problems. The Rock Island Coal Company already had established a permanent training department based on that very model, and nearly every coal company in McAlester and Hartshorne were hoping to host similar conferences next year."

—Danney Goble, *Learning to Earn*

Ready for Reorganization

"Oklahoma was ready for reorganization when reorganization came in 1929. One section of a statute enacted that year dissolved the old vocational education board and assigned its functions to a new agency created by the remainder of that law. That was the State Board of Education, comprised of seven members: the elected superintendent of public instruction and six others appointed by the governor. The law stipulated that the superintendent of public instruction would chair the board and also direct its vocational education division.

"The reorganization came none too early. America's decade of the twenties had been a decade of change so swift and so profound that it amounted to a national transformation. No state offered a better example than did Oklahoma."

—Danney Goble, *Learning to Earn*

Vocational Education Rehabs Rehabilitation

"The reorganized vocational board accepted a new responsibility in 1927, when it added vocational rehabilitation to its duties. Hoping to haul in some newly available federal matching funds, Governor Robertson had given the original board the assignment in 1920, but it had been another victim of the continuing war between the executive and legislative branches. Vocational rehabilitation was itself rehabilitated only in 1927, when the lawmakers finally appropriated enough money to match the federal offer. Rehabilitative training remained a responsibility of the state board for another ten years, when it became the division of vocational rehabilitation under the department of education.

"Civilian vocational rehabilitation—the full, official title—joined agriculture, home economics, and trade and industrial education to become a fourth department. The program began with arrangements made with the State Industrial Commission (the agency that administered Oklahoma's workmen's compensation program) and others: the state superintendent of public instruction, county school superintendents, and several of the state's social agencies. These referred possible 'rehabilitation cases' to the department; the state board promised to train any and all that proved to be both disabled permanently and vocationally handicapped. The only exceptions besides the very old, the homebound, and the mentally infirm were imprisoned criminals. If need be, it would be offered one-on-one, too. The ultimate goal was to put each person in a specific, lasting job.

"The notion that Oklahoma (or any state) could put every one of its 'rehabilitation cases' in a permanent job was, to put it gently, rather optimistic. What is remarkable, though, is how close Oklahoma did come to that impossible goal. Nothing approaching all those who needed and qualified for training got it. Nonetheless, those who did get it did benefit from it. More than that, their fellow citizens benefitted as well. One of its administrators (a regional director named Voyle Spurlock) assembled and reported the evidence for his 1936 graduate thesis.

"Through the preceding year, 1935, the state had trained 887 people (627 men and 260 women) for work. As the board had promised, it had prepared each for a 'specific job,' chosen from 116 different occupations. It was a spectacular array. Twenty-one men had been trained as accountants, twelve as lawyers, three as ministers, and seventy-seven as teachers. Seventy-three women also had entered teaching; sixty-six had become stenographers. More exotic careers awaited the vulcanizer, short-story writer, and noodle maker—one male in each case.

….

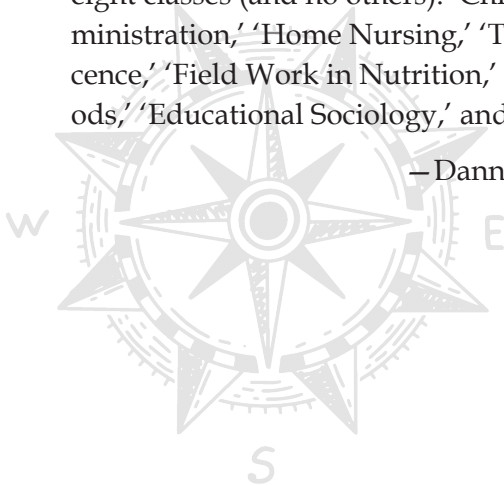
"What had that money bought? To a remarkable degree, it was exactly what the state board had promised its trainees: lasting employment. In 1935, nearly 80 percent of its former clients were at work in the jobs for which they had been trained. With jobs of any kind at a premium during one of the worst years of the Great Depression, the figure may have been better than the employment rate for the general population."

—Danney Goble, *Learning to Earn*

Progressive Requirements for Vocational Teachers: Agriculture and Home Economics

"The original, admittedly high standard that teachers of agriculture and home economics had to be college graduates had metamorphosed into a catalog [by 1927]. It identified exactly what Oklahoma demanded, field-by-field, college-by-college, and semester-by-semester. If they intended to teach agriculture upon graduating from Oklahoma A&M, for example, they needed to complete eight courses in the spring of their senior year alone. They had some choice on one: selection from a (short) list of seminars on agricultural education. Otherwise, they were directed to schedule 'Extension Organization and Methods,' 'School Administration,' 'Cooperative Marketing,' 'Domestic Engineering,' 'Poultry Feeding,' 'Incubation and Breeding,' and something called 'Visual Instruments in Technical Agriculture.' In home economics there was no choice at all. There, a senior's schedule consisted of these eight classes (and no others): 'Child Training,' 'House Administration,' 'Home Nursing,' 'The Psychology of Adolescence,' 'Field Work in Nutrition,' 'Demonstration Methods,' 'Educational Sociology,' and 'Student Teaching.'"

—Danney Goble, *Learning to Earn*



Progressive Requirements for Vocational Teachers: Trade and Industrial Education

"It was still impractical to expect that T&I instructors hold college degrees; there were no degrees, as such. Nonetheless, T&I teachers had to present more [by 1927] than the vague credentials from the 1917 plan. Things like a 'good personality and ability to deal with people' were not enough—not ten years later. Anyone who wanted to teach in trades and industries first had to document the successful completion of formal study on specified subjects. That particular list included 'The Philosophy of Vocational Education,' 'Trade and Job Analysis,' 'Shop Organization and Management,' and 'Methods of Teaching, Including Practice Teaching, Observation, and Criticism.' Of course, it never hurt to have a good personality, too; but otherwise, Oklahoma A&M taught just such classes."

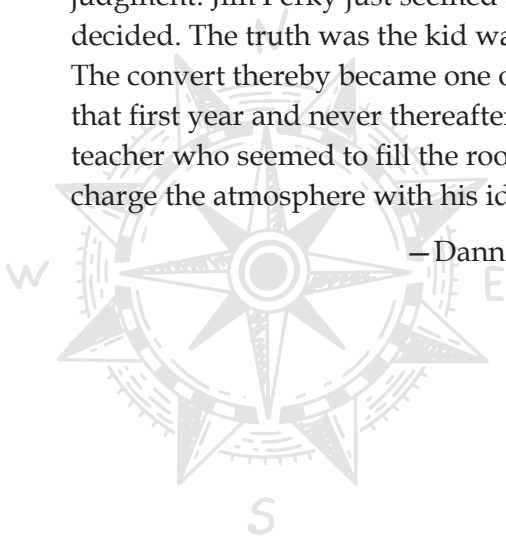
—Danney Goble, *Learning to Earn*

As Strong as Mustard

"The newlyweds left the rolling, lush campus at Madison, Wisconsin, that year and headed for the treeless prairie of El Reno, Oklahoma. Mary Perky got a job teaching English at the high school where her husband [J.B. Perky] was the new ag teacher. The latter thus began a remarkable forty-three-year career in vocational education. At the time, few would have predicted as much. Singularly unimpressed by the kid's crisp, bright Wisconsin diploma, one grizzled veteran teacher looked over the new-hire and pronounced him to be 'as green as a cabbage head.'

"At least he was noticed, not that it was hard to do so. By then Perky had reached his full adult height of six feet, eight inches, and his weight approached a mature and firm two hundred and fifty pounds. Built like a giant, he also had the force, the impact, and the presence of a giant, maybe even a giant twice his size. It was little wonder, then, that the old-timer at El Reno soon amended his original judgment. Jim Perky just seemed as green as cabbage, he decided. The truth was the kid was as strong as mustard. The convert thereby became one of many who met him that first year and never thereafter forgot the young ag teacher who seemed to fill the room with his body and charge the atmosphere with his ideas."

—Danney Goble, *Learning to Earn*

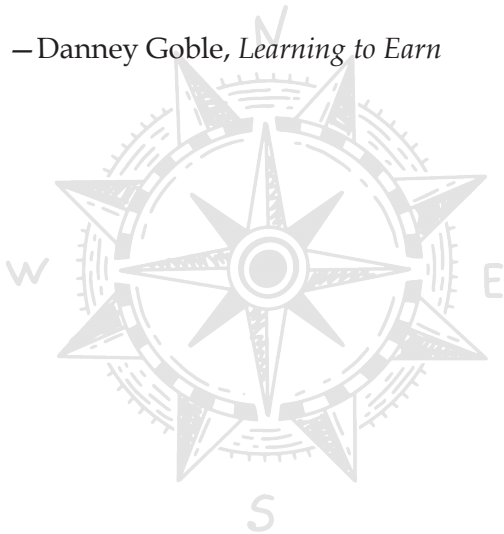


A Day in the Life Circa 1927

"Once hired, a vocational education teacher—whether teaching vocational agriculture, home economics, or in T&I—taught in any one of three basic forms. Most did in all three ways. Every field regularly scheduled both day and evening courses, usually through a participating public school. There were also part-time classes in each area; almost all of these were independent of the school system. Experience demonstrated that the relative proportions best for each depended on who was being taught what.

"Trade and industrial education came to rely principally upon evening programs. Most were developed in close association with employers, and most of the students were employees there to improve their skills and productivity. The state prescribed a complete curriculum for each. For example, evening classes in auto mechanics had to include seventy lessons, each at least two hours long. The lessons covered everything from engines and carburetors to springs and axles."

—Danney Goble, *Learning to Earn*



Building Purposes for People

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—Danney Goble, *Learning to Earn*

Natural Allies

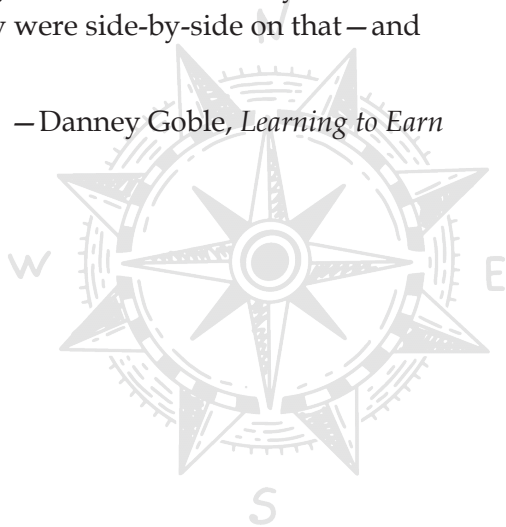
"Put Henry Bennett in the A&M presidency and one had the makings of real political power.

"Henry Bennett had that power, and J. B. Perky knew it. The first was willing to share it with the right kind of man. The second was the right kind of man, and he was ready for his share. Together, each thereby got more power still.

"The two were natural allies. They worked the same fields; they had the same interests. The college was the vocational system's major supplier, and the system was the major employer of graduates from entire departments. Every penny of teacher training monies (except the few begrudgingly spent on black training at Langston) went to Oklahoma A&M. Nearly every agriculture teacher was an A&M graduate. Representatives of both were all across the state, often in the same communities, often providing complementary service, usually for the same folks.

"Besides, Henry Bennett and Jim Perky were just alike in many respects, one being that each wanted only the most able men alongside. They were side-by-side on that—and on much else, too."

—Danney Goble, *Learning to Earn*



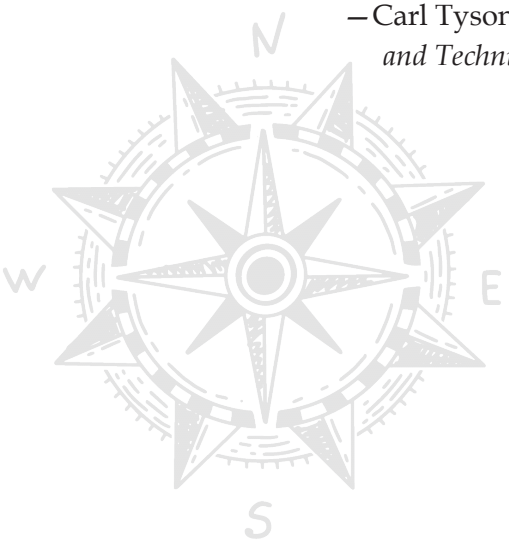
A Statement and a Philosophy

"The new director [J.B. Perky] had never been one for resting on past accomplishments. His philosophy was best expressed in a speech made to an annual conference of the Oklahoma vocational agriculture teachers while he was supervisor of that division:

"When you all pull off your britches and crawl in bed at night, don't turn over twice until you think about what you have done, and more important, what you have not done that day. Think about your salary and the amount of money you are to receive for your services during the last twenty-four hours. Now be honest, what in the world that was worth a tinker's damn did you accomplish? Think, think hard, and if you're honest a good many of you will get up, pull the britches back on and go to work!

"This admonition to work was meant for every person employed in vocational education in Oklahoma, including, and especially, J.B. Perky."

—Carl Tyson, *The History of Vocational and Technical Education in Oklahoma*

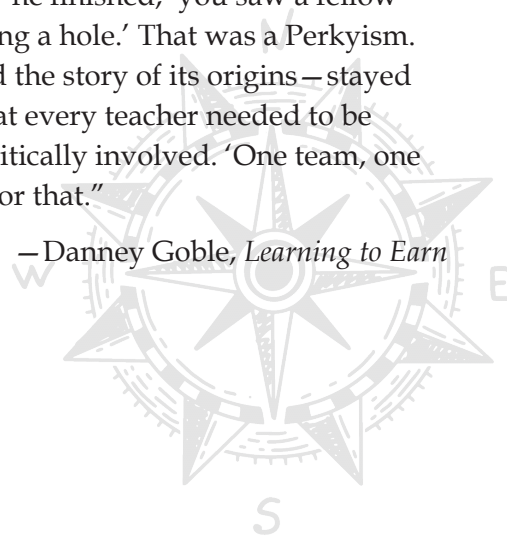


"Perkyisms"

"People who worked with Perky marveled at his political connections. They long talked about that, just like they later talked about his 'Perkyisms,' his special ways of saying things. A favorite one was 'what one vocational teacher could do, all could do.' A corollary was that every vocational teacher in every district ought to do there what their boss did everywhere. That was not a saying; it was the standard.

"Nearly a half-century after it happened, people still talked about the poor fellow who had failed to invite his state legislator to the annual parent-son banquet. Worse, the snubbed lawmaker wielded statewide power from his seat on the House Appropriations Committee. The instructor had ignored that fact, if he even knew it. Perky knew it—and he knew the potential damage done by the teacher's lapse. It was like a bunch of people, Perky said, all trying to cross a wide river in the same boat. 'When you looked back to the stern,' he finished, 'you saw a fellow with a brace and bit boring a hole.' That was a Perkyism. That particular one—and the story of its origins—stayed around as a reminder that every teacher needed to be politically savvy and politically involved. 'One team, one goal' was the Perkyism for that."

—Danney Goble, *Learning to Earn*



Growing a Band of Brothers

"'This stuff I've been telling you is purely personal [said W.O. Gilbert]. I was a part of vo-ag in those early days. I tried to help it grow, and I sure watched it grow. Later on, I looked at it from the outside and at the people who were involved: the early teachers and the troubles they had, the hours they spent outside a classroom, their little conflicts with other organizations and even with other teachers who thought we were overpaid—all this had a part in bringing us closer together. The leadership we had made us want to overcome all these handicaps, if that is what they were,' Gilbert said."

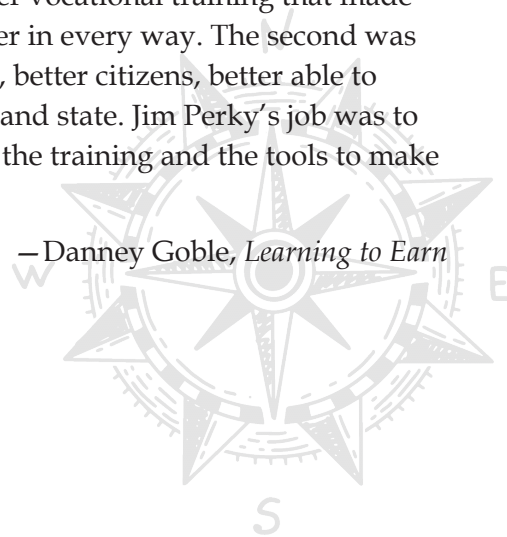
—Roy P. Stewart, *Programs for People*

J.B. Perky's "Cross-Section Plan"

"He called it the 'cross-section plan.' The name was neither descriptive nor creative, but its elements were striking and innovative. It gave Oklahoma a new and integrated statewide program that managed to be both uniform and diverse and both simple and complex. One program, it assumed many forms. Every form would be different precisely because every form would be the same: each matched its particular, local circumstances.

"Under Perky's new orders, the job of every man (they were all men) who taught vocational agriculture thereafter started with surveying his community's farms. Pieced together, the surveys built a comprehensive picture of the area each served. Once they knew those local conditions, the teachers had to address them with suitable multi-year and multi-level projects. Every element of every project had to serve two purposes, one every bit the equal of the other, and a vocational teacher's job was to accomplish both. The first was to offer vocational training that made boys better farmers, better in every way. The second was to make boys better men, better citizens, better able to serve their communities and state. Jim Perky's job was to see that his teachers had the training and the tools to make both happen."

—Danney Goble, *Learning to Earn*



Future Leadership Takes Root

"From the beginning, almost every one of the state's vocational agriculture departments hurried to organize its own FFA chapter. By national rules, individual participation was strictly voluntary; a boy had to choose to join, and he had to pay dues. Those circumstances were nothing compared to the energy and enterprise of Oklahoma's vocational leaders. In no time at all, nearly every eligible Sooner student was a member, and an active and involved member at that. That is why if an American boy was in the early FFA the chances were one-in-eight that the boy lived in Oklahoma."

—Danney Goble, *Learning to Earn*

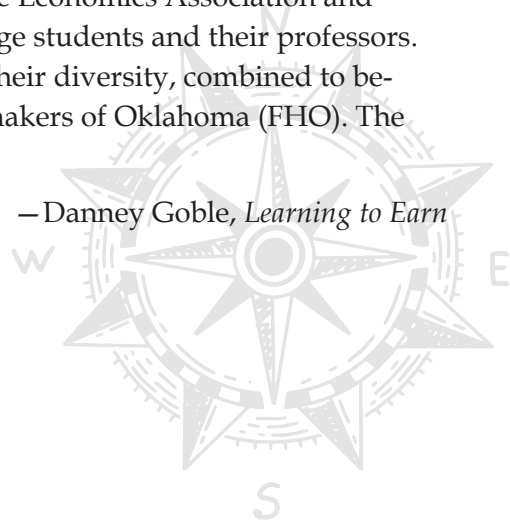
Hardy Perennial

"In the beginning (which means the Smith-Hughes Act of 1917) home economics was one of the three first programmatic ventures into vocational training. There previously had been classes for girls in some high schools under the label of domestic science…The first offices for the division were in Stillwater, then were moved to Oklahoma City…and finally back to Stillwater in 1979 to rejoin the vocational family."

—Roy P. Stewart, *Programs for People*

"In the case of home economics, Homemaking Circles and Student Homemakers were among the more popular names. Some addressed high school girls, others enrolled older adults, still others served junior high students. At least one—the club that Mary Russell founded in 1926 at Chickasha's Oklahoma College for Women—affiliated with the American Home Economics Association and consisted chiefly of college students and their professors. These local clubs, in all their diversity, combined to become the Future Homemakers of Oklahoma (FHO). The year was 1937…".

—Danney Goble, *Learning to Earn*



Exemplary But Not Equal

"[Oklahoma] was one of the first five [states] to offer as much as a segregated statewide farm club for its segregated agriculture students. Later, Oklahoma's club became one of the fifteen charter members of the New Farmers of America (NFA), when it appeared in 1935.

"Any credit fell to Oklahoma's black educators and farm boys. D. C. Jones, who worked at Langston training African-American agriculture teachers, had been instrumental in creating one of the country's earliest student organizations. When it began in 1927 with 13 chapters and 403 members, he called it the New Farmers of Oklahoma (NFO). It was this NFO that earned Oklahoma charter member status in the new NFA eight years later. Because Oklahoma's club always had been among the most active, the NFO was a reason for there even being a New Farmers of America."

—Danney Goble, *Learning to Earn*

Pioneers in Conservation

"Years before Washington's New Dealers got around to conservation, nearly every agriculture teacher in Oklahoma taught it—practiced it, too. In 1930 alone, 95 teachers trained almost 3,000 boys and nearly as many adults in conservation techniques. Putting theory into practice, the teachers and their students also terraced 1,135 farms and planted 66,326 acres in nitrogen-restoring legumes that year. Here was why Washington looked to vocational agriculture to staff the SCS [Soil Conservation Service]."

—Danney Goble, *Learning to Earn*

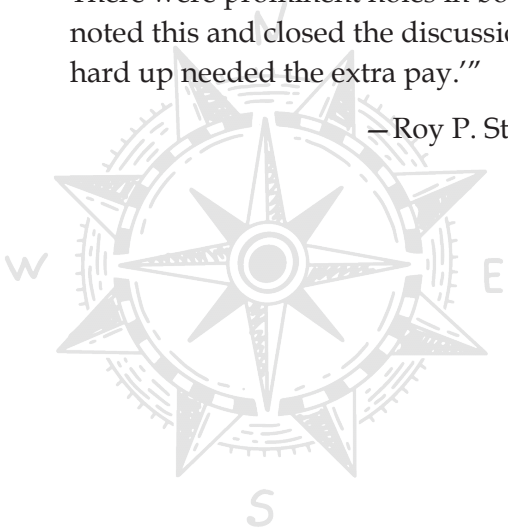
Vocational Education Grows the Soil Conservation Service

"In 1935 the new U.S. Soil Conservation Service was getting started and, naturally, had to have personnel. The great depression appeared to have passed its zenith, but the dust bowl was much in evidence…

"To get its initial personnel, the SCS dipped heavily into the ranks of Oklahoma vocational agriculture instructors…".

"'I recall well a conference with J.B. Perky [said Clarence Kingery]….The question was whether or not we were violating our vocational agriculture contracts…We insisted that we could continue our school duties, since school was out, and also take Soil Erosion Service (later SCS) training part-time. Our WPA stipend was 30 cents an hour for actual duty time. Perky insisted that we could not do this. After a lengthy discussion, he looked over at John Underwood, who had both feet cocked up on a steam radiator. There were prominent holes in both John's socks. Perky noted this and closed the discussion by saying people that hard up needed the extra pay.'"

—Roy P. Stewart, *Programs for People*

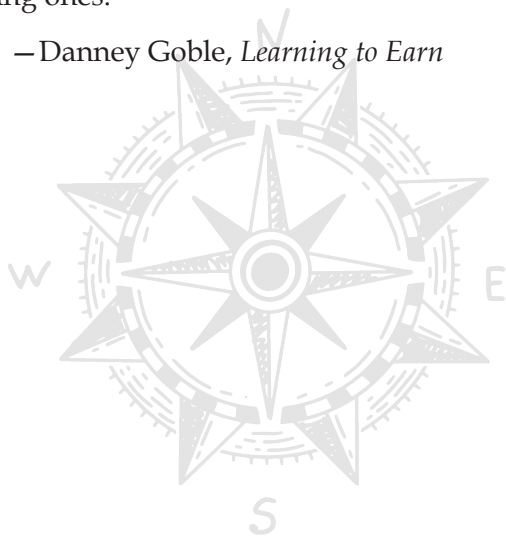


Selling the Future

"New to the George-Deen law [1936] was money ($1.2 million per year) to supplement teachers' salaries for another form of vocational training, distributive education. It was generally called DE, and it usually meant retail and wholesale selling. DE received another $1 million annually to train teachers. States divided both according to their shares of the national population.

"Here was another instance of Oklahoma's being ahead of its time—just not very far ahead. Since 1929, Tulsa's public schools had cooperated with local merchants to combine students' study in the classroom with work in the merchants' stores. By the time the George-Deen law went into effect, the schools of Bristow, Oklahoma City, Shawnee, Ponca City, and Tonkawa had the same arrangements. No others did, however, and no two programs were necessarily alike. The new statute's principal contributions were to encourage new programs and to impose uniform standards upon the existing ones."

—Danney Goble, *Learning to Earn*



Investing in the Future

"The addition of distributive education to the vocational education system of Oklahoma was indicative of the future. Vocational education had suffered through the Great Depression with the nation, and all those involved looked forward to the next decade with renewed optimism and dedication. Both of these factors were needed, for in 1940 the United States was facing the most determined threat to its existence in its history—World War II. Vocational education in Oklahoma and across the nation stood ready to help withstand the challenge of totalitarianism to the Republic."

—Carl Tyson, *The History of Vocational and Technical Education in Oklahoma*

Vocational Education After Three Decades

"In this period ending nearly three decades of vocational education [1938-1940], there were general industrial classes in 21 school systems….

"Day school programs offered training in 18 skills or crafts, most of them what one might expect…but a few not quite so common—such as bookbinding, mill work, tailoring, and shoe repairing. Part-time general continuation classes were offered in 19 communities in 1939 with 64 occupations listed. Some, such as librarian, went to other disciplines later or fell away. For example, creamery pasteurizer, lumber grader, dental assistant, embalmer, and Coca Cola foreman. Western Union operator, as a trade, vanished as branch offices with telegraph keys (using a Prince Albert can as a sound resonator) disappeared, and electronics, as represented by teletypes, took over."

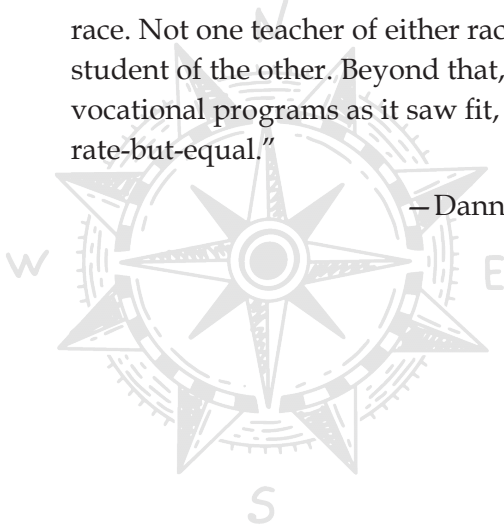
—Roy P. Stewart, *Programs for People*

Inherent Inequity and Inescapable Consequences

"For white and 'colored' alike, T&I's programs filled most of a school year with daily three-hour sessions. Students of both races thereby received the pre-apprentice training required for eighteen different trades. This satisfied the equal piece of the separate-but-equal claim—in theory, not in dollars. Under its constitution, Oklahoma maintained a dual system of school finance, with separate tax bases, separate tax rates, and separate school funds, all varying from county to county. Inequity was more than inevitable; it was inherent, and its consequences were inescapable. The system was separate-but-equal; the dollars were just separate.

"Other provisions of the state's constitution and statutes were at play here, too; and they played rough, especially rough in demanding the strictest segregation in every aspect of schooling. Not one student of either race could sit in one classroom with even one student from the other race. Not one teacher of either race could instruct even one student of the other. Beyond that, each community ran its vocational programs as it saw fit, as long as it was separate-but-equal."

—Danney Goble, *Learning to Earn*



Vocational Education for Guns and Butter

"The schools were mobilized for the war effort [the Second World War] not only to provide the necessary orientation for the future members of the Armed Forces but also to furnish vocational training to meet the growing demand for manpower in industry and agriculture….Vocational schools were called upon to train not only high school students but also workers who were dislocated from nondefense industries and needed retraining to fit them for service in war-production industries. Classes were held at all hours of the day for all types of men and women. So far as high school students were concerned, the demand for admission to courses in vocational training was greater than the schools could accommodate. There was, in fact, a pronounced shift of interest from academic studies to vocational training."

—I.L. Kandel, *The Impact of the War Upon American Education* (1948)

The Imprint of War

"The war [the Second World War] placed unprecedented demands on a system already strained. Oklahoma still suffered from the catastrophe of the 1930s, when depression, drought, and dust had conspired to exile nearly a fifth of its people. Because federal vocational money went to states in exact proportion to their populations, Oklahoma slipped correspondingly. Perky took over the system just as federal support began to drop. Six months later, it fell to him to guide that wounded system through its greatest challenge ever.

"Home economics took an especially hard hit. Because the federal formula sent fewer dollars to the division, entire programs disappeared. State support fell even more… The entire division would have closed completely in 1943 had not Governor Robert S. Kerr filled out the legislature's appropriations with money from his special contingency fund. Otherwise, Oklahoma would not have qualified for any federal home economics program at all."

….

"For the most part, T&I's existing programs escaped the worst financial and manpower shortages that hit home economics and vocational agriculture and went on without noticeable change. What did change was the addition of a new program: the Vocational Training for War Production Workers Program. Here was no new name for some old activity. It was what Perky and a few others had conceived and what Congress had launched during the anxious summer of 1940. Administered through the trades and industries division, it was funded altogether separately from the rest of the vocational system. Its one purpose was to

prepare workers for occupations and industries furiously producing for war.

"It did that, and it did it abundantly. For the air war alone, it turned out workers skilled in aircraft assembly, aircraft engine manufacturing, aircraft engine maintenance, aircraft mechanics, aircraft sheet metal work—even something called 'aircraft, other.'

"The great majority of Douglas workers likely came to Tulsa after stops in Sapulpa, Drumright, Cushing, Stillwater, or Muskogee. These were among forty-one towns with new vocational centers that took in everything from unemployed roustabouts to displaced housewives and turned out war workers skilled in everything from aircraft assembly to aircraft engine manufacturing. Whatever 'aircraft, other' was, some probably learned that and got good jobs, too."

—Danney Goble, *Learning to Earn*

A Fair Board Takes a Step Forward

"Speech contests were one thing black Oklahoma youths could get into without an outlay of money. Few of them had much of that essential needed to get involved in livestock programs, yet they steadily did become involved, and the quality of their animals increased as their knowledge of feeding and fitting improved.

"One difficulty they experienced—another in the many such aspects of segregation—was the refusal at that time of most junior livestock shows to allow blacks to participate. The first statewide black junior livestock show was held at Langston University in 1944…[I]n 1947 the Logan County Fair Board offered its county fair facilities to black groups without charge…Black youths found a better market for show animals because of Guthrie's proximity to the stockyards and buyers at Oklahoma City."

—Roy P. Stewart, *Programs for People*

War Delivered Tulsa

"During the First World War, Tulsans had taken to calling their city the 'Oil Capital of the World,' and it probably had been. At the eve of the next war, they still had the title but not much else. The Great Depression, not oil, lorded over Tulsa; and it reigned as an angry, demanding god. To appease its wrath, the city offered up sacrifices—half of its oil-production workers, two-fifths of the pipeline employees, a third of its refining personnel. Sacrifices did little good. Tulsa still knelt in humble submission as late as 1940.

"War delivered Tulsa. The city got to its feet and took off running. Stagnant for a decade, Tulsa's population jumped by a third in four years. Unemployment disappeared. Manufacturing jobs nearly quadrupled. Per capita income multiplied by five. Retail sales tripled. Tulsa was in flush times again.

"Few of these blessings flowed from oil, however. The principal source lay in Tulsa's northeastern corner, but only since 1942. There and then Douglas Aircraft had built a huge plant that proceeded to turn out B-24 'Liberators,' three-a-day or better, 3,138 bombers all told. Working full shifts around the clock for thirty months, Douglas employees outfitted 4,000 other military planes. They also produced, packed, and shipped 20,000 tons of parts. Douglas got the contracts, Germany and Japan took the blows, and 15,000 new Tulsans got fat paychecks every month."

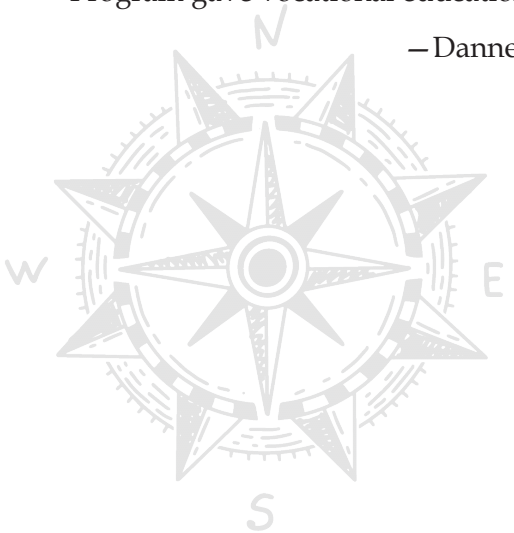
—Danney Goble, *Learning to Earn*

Their Finest Hour

"In 1940, not much but exhausted farms and a lonely Deep Rock gas station lay just east of Oklahoma City. Five years later, the farms were gone, their frame structures bulldozed, their fields leveled and paved for a military supply depot (Tinker Field) and an adjoining Douglas plant. Vocational training helped supply fifteen thousand war production workers for Tinker, another twenty-three thousand for Douglas. The Deep Rock station was no more. Its old driveway had become the entrance to a brand-new city, Midwest City.

"The resurrection of one city, the genesis of another, the deliverance from depression, the cornucopia of industrial abundance and military might—these amounted to no more than a fraction of what Oklahomans owed their vocational system. The debt was not Oklahomans' alone, however. Free people the world over shared some of it, too. Born in desperate moments, the War Production Workers Program gave vocational education its finest hour."

—Danney Goble, *Learning to Earn*



The 1950s and The Hinge of History

"The external environment of vocational education was changing much faster than was its internal vision, a vision still focused on traditional programs for traditional students. It looked to an America not of military pilots and bombardiers or of engineers and technicians, but of farmers and rural homemakers, of carpenters and small-town sales clerks. It was more the America that had entered the war than the America that emerged from it."

….

"What was new was Oklahoma. More accurately, it was becoming new. The Second World War had put change in motion, and the momentum carried over into the fifties and beyond. Few then could have sensed it—only the perspective of time made it evident—but the 1950s may have been the hinge upon which the state's entire history turned."

—Danney Goble, *Learning to Earn*

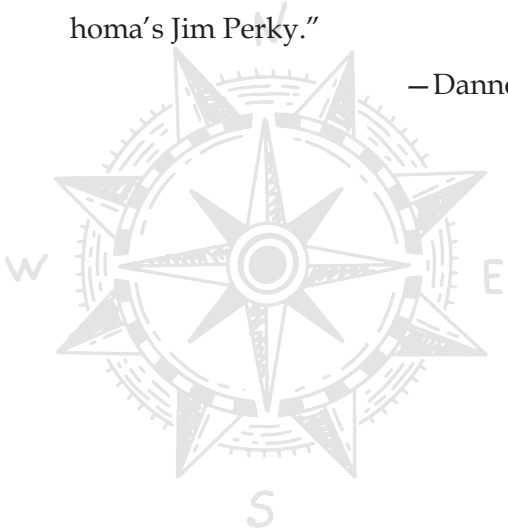
Stabilizing Distributive Education

"Shuffling state monies from one account to another [in the early 1950s], Perky made up for most of what Oklahoma lost out of Washington and stabilized DE enrollments. That done, he then orchestrated a campaign to rescue the national program.

"As it happened—except that it likely did not just happen—Jim Perky had the right tool in the right place at the right time. Like other student organizations, DECA, the student club affiliated with distributive education, published its own national magazine, this one The Distributor. Not by coincidence was The Distributor published in Stillwater, Oklahoma; and not by accident was it overseen by M. J. DeBenning, head of Oklahoma's DE division. Among its most loyal sponsors were the National Retail Merchants Association, the National Dry Goods Association, and the Sears Roebuck Foundation.

"Because he had friends like these, Distributive Education in America had no better friend anywhere than Oklahoma's Jim Perky."

—Danney Goble, *Learning to Earn*



Oklahomans Go to Town

"That was another thing that made the 1950s so pivotal. At the decade's beginning, Oklahoma's population was something of a balanced teeter-totter, its urban 51 percent of the population on one end, the rural 49 percent on the other. The next ten years permanently ended the balance. When the fifties ended, 63 percent of Oklahoma's people lived in cities, and the proportion never again would be even that small.

"Born and raised on the farm, Oklahoma moved to town in the fifties."

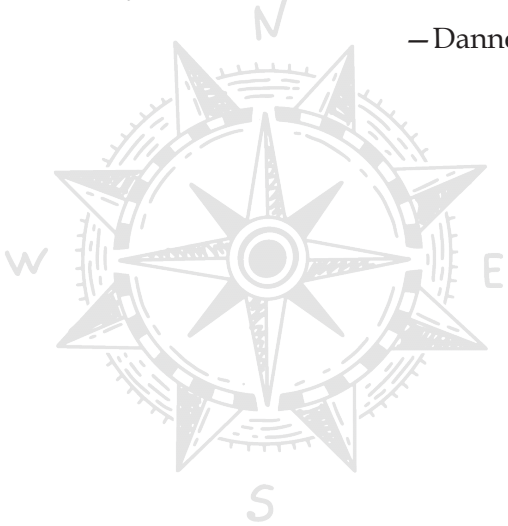
—Danney Goble, *Learning to Earn*

Nursing Education on the Mend

"In 1956, Congress amended the then-operative law on vocational education—the George-Barden Act—with the so-called Health Amendment. To encourage the preparation of practical nurses, Washington made five million dollars available to the states for each of the next four years. The money was to pay 75 percent of the cost of preparing these nurses in the first year, half in each of the next three. Oklahoma jumped in line at once. Within weeks, the state produced and Washington approved its plan to turn out practical nurses. Initially assigned to trades and industries, practical nursing education only later broke off to become an independent division.

"The program opened in one of Oklahoma City's unused elementary schools. In its first year, just over two hundred fifty working practical nurses signed up for extension classes there or at sites in twelve communities. Of the first thirty-six to graduate from the extension courses, thirty-five then passed the required licensing exams."

—Danney Goble, *Learning to Earn*



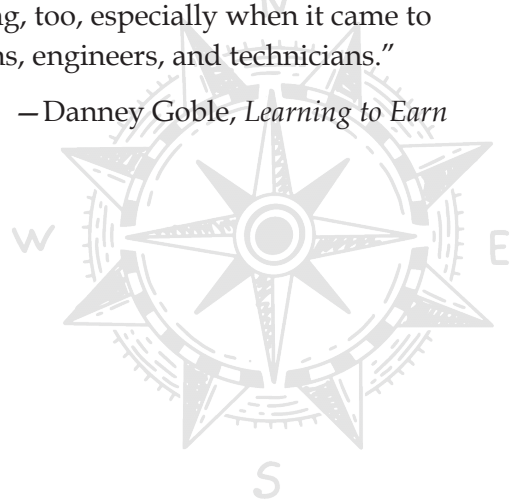
Sputnik Launches Growth

"Technical education became statistically important in Oklahoma higher education shortly after the launching of the Russian satellite 'Sputnik' in 1957. That event stimulated a whole spate of scientific research in the natural and physical sciences at colleges and universities across the nation, which, in turn, spawned a revolution in technical education during the 1960s. Two-year colleges added many new programs in engineering technology, computer technology, health-related technology, and business technology beginning in the early 1960s and continuing through the 1970s."

—Roy P. Stewart, *Programs for People*

"When the Soviets sent Sputnik into orbit, they put America on notice: The United States had fallen behind, and there was no way to catch up that did not pass through the schools. The country needed more of everything, better of everything, too, especially when it came to scientists, mathematicians, engineers, and technicians."

—Danney Goble, *Learning to Earn*



Technology and America's Economy

"It may have been, however, that changes would have come even had there been no Sputnik, perhaps even had there been no Cold War. After all, technology involved more than small satellites and great weapons. Technology was—technology always had been—what made America's economy so distinctive and so successful. If anything, the early post-World War II years only intensified its importance. That was when technology erupted into a cascade of material abundance. Televisions, kitchen appliances, washing machines, clothes dryers, high-fidelity recordings and sound equipment, plastics in a thousand shapes with a thousand purposes—these displayed technology's largess."

—Danney Goble, *Learning to Earn*

A Building for the Future

"Perky and his staff [in 1957] look forward to relocating soon to Stillwater's West Sixth Street. President Henry Bennett had the National Youth Administration build a brick structure there back in the 1930s, and the college has offered it for vocational education's use. Remodeling is underway, and the college promises that everything will be ready next year, in 1958. Some vocational offices will leave the campus, but in every other sense the move can only bring vocational education even closer to Oklahoma State University, the new name that Oklahoma A&M College had taken just five months earlier, in May 1957."

—Danney Goble, *Learning to Earn*

The Start to a Marathon

"In its famed Brown v. Topeka (Kansas) Board of Education decision of 1954, the United States Supreme Court ripped the mask from Jim Crow and expelled that wrongdoer from America's public schools. Oklahoma started dismantling its state segregation provisions almost at once. The quick start was to Oklahoma's everlasting credit, but it was no guarantee that an end was going to be reached either swiftly or smoothly. In quite a few cases, it was neither, and vocational agriculture was one of those cases.

"It took eleven years, until 1965, to execute the merger of the (white) Future Farmers of America with the (black) New Farmers of America…The New Farmers of America became an old memory, one steadily fading with the passing of the old men who remembered it from when they were young boys.

"As for black teachers, the African Americans who had taught agriculture in black schools left one by one, some to other jobs, some to retirement, some to graveyards. Few were replaced. There had been twenty-eight of these African-American teachers in 1954, when Brown was announced. Some forty years later, Oklahoma did not have even one African American in even one agriculture classroom."

—Danney Goble, *Learning to Earn*

Oklahoma Achieves Mastery with Competency-Based Education

Competency-based education, or CBE, has many names. It may be called mastery learning, competency-based instruction, systems approach to education, personalized system of instruction, performance-based instruction, criterion-referenced instruction, mastery learning, objective-referenced learning, individualized instruction, programmed instruction, or self-paced learning. In CBE, any learner can master most any task at a high level of mastery if provided with high-quality instruction and sufficient time. Rather than being fast or slow learners, or good or poor learners, most individuals become very similar to one another in learning ability, rate of learning, and motivation for further learning when provided with favorable learning conditions. In CBE, the focus should be more on differences in learning and less on differences in learners. The most important element in the CBE teaching-learning process is the kind and quality of instruction experienced by learners. Every task, every objective, every test or quiz item, every video, every module, and every instruction sheet should pass this test: Will this training activity or learning resource contribute to competence on the job?

As noted by Roy P. Stewart in Programs for People, "He [Francis Tuttle] favored heavily a competency-based format for evaluating both the educational product and the instruction that took courses to completion…Employers also wanted that, he said, and such evaluation was made easier from a competency base than by a mere time frame."

CBE determined the structure of the curriculum developed by both the Curriculum and Instructional Materials Center (CIMC) and by the Mid-America Vocational Cur-

riculum Consortium (MAVCC). The CIMC was the name of the curriculum division of the state agency; the agency was also the fiscal agent for the MAVCC consortium. The CIMC and MAVCC produced and sold curriculum for career and technical education nationwide for 50 and 40 years, respectively.

—Craig Maile, CIMC staff (1986-2018)

The First 500,000

The CareerTech System reached the milestone of 500,000 total enrollments during the same year that Dr. Phil Berkenbile was hired as the sixth state director in the system's history; he had been the acting state director since May 2003.

—*Major Milestones of Career & Technology Education in Oklahoma: A Discussion Guide,* Oklahoma Department of Career and Technology Education

A Legacy of Foresight and Purpose

TREASURE CHEST 2

Born of Deeds

"FFA's Oklahoma success was partly indebted to what made it so successful everywhere. Because the Federal Board for Vocational Education considered FFA to be 'integral' to American vocational training, it tied it directly to federally-funded programs. The board officially declared FFA to be a 'device for supplementing, motivating, and vitalizing' vocational agriculture and insisted that every agriculture department in every state support its 'spirit of industry, cooperation, and achievement.' No state could ignore such goals, if only because no state could do without federal vocational funds. Few states, however, matched Oklahoma's heartfelt commitment to them.

"None could compare to Oklahoma for something else, the something that made its FFA program so very special: the fun of competing in agriculture contests. 'Cooperation,' 'achievement,' 'industry'—they were all good things, worthwhile things, admirable things. But they were hardly fun things, entertaining things, or exciting things. On the panhandle's lonely plains, Jim Perky already had demonstrated how to make cooperation fun and achievement entertaining. He had shown that the friendly competition of agriculture contests could excite his students' industry. The boys' families and communities had gotten pretty excited, too.

"Leaders in other states never learned that. Many state FFA organizations limited their boys' participation in competitive activities; some actively discouraged it. The method was to limit time for preparing and competing. The effect was to limit opportunities for learning, maybe even reasons to learn.

"Not in Oklahoma. Oklahoma boys went to county and state fairs neither to gawk nor to roughhouse. They were there to compete—and not all of that competition was entirely friendly either. They entered nearly every contest open to them in nearly every state of the region. They took their best livestock, their best products, their best skills, and their most competitive instincts to every appropriate national meet. They perfected their own contests (founding the National Land, Pasture, and Range Judging Contest and building the world's largest junior livestock show were examples) to invite boys from all over to come to Oklahoma and take them on."

—Danney Goble, *Learning to Earn*

Returning Veterans to the Land

"The veterans Administration in May of 1946 requested the State Board for Vocational Education to organize and conduct an institutional-type on-farm agricultural training program for World War II veterans. This proved immensely popular, and before it expired more than a dozen years later it included veterans of the Korean conflict. Many of the instructors were veterans themselves. Working in this program gave them an opportunity to regain a place in civilian status, as it was to do for men who went back to the farm. By the end of the first two years there were 700 teachers employed, some of them former vo-ag instructors or extension agents, based in 342 communities, with 15,300 people attending classes (although a total of 21,000 had enrolled). Dropouts were common because of adjustments to civilian life or changed plans.

"Classes were patterned after regular vocational programs, but on-farm visits were intensified, balancing 100 or more hours against some 200 contact hours at schools. There was quite a bit of latitude in curriculum and choice of subject matter, according to local conditions, experience, and the need of the clientele. Planning, production, marketing, conservation, financing, management, mechanics, and record keeping to make some of the other needed elements work were stressed.

"By 1950 there were 724 classes active in 355 communities with enrollment rounded at 15,000. Eligibility of some clients expired periodically, although about 28,000 men had been in the program at some time since its inception. By 1958 there were 63 classes operating in 62 schools with 400 students."

—Roy P. Stewart, *Programs for People*

Ensuring Programs for People

"Two months after receiving the panel's report, President Kennedy sent Congress what became the National Education Improvement Act of 1963. No previous federal education law had been as bold. Seven titles, broken into twenty-four sections, addressed everything from elementary classrooms to college education, with libraries and adult extension courses on the side. Title V, Part A of the bill translated the panel's blunt recommendations into intricate legislative language needed to revolutionize vocational training.

"Modifying formulas used in earlier laws, the 1963 act stayed with the practice of assigning set percentages of each state's share of federal funds to its agriculture, home economics, and similar programs. Even then, however, the law for the first time ignored those traditional divisions when it came to calculating the sum of money that each state received—the money was divided up according to the state's population in the ages most to gain from vocational training. In that way, what a state's people needed, not where they worked or where they lived, became the controlling factor. To underscore that point, the act urged states to shift their money out of any one category and put it anywhere needs were greatest.

"Far more important were the substantive and philosophical judgments embodied in the 1963 act. They shared the resolve that vocational education had to rise above turning out farmers and homemakers, had to go beyond producing plumbers and nurses, had to transcend serving professions at all. Vocational education had to serve people."

—Danney Goble, *Learning to Earn*

1967: The Year the Planets Aligned

"Governor Dewey Bartlett put into place the third important factor that allowed vocational education to flourish in Oklahoma. When former state Senator Dewey Bartlett, who was helpful in the passage of HJR 520, was inaugurated as governor in January 1967, one of his priorities was to bring new industries into Oklahoma. In July of the same year, Dr. Tuttle was appointed State Director of Vocational Education."

—Suzette Northcutt Rhodes, *Francis Tuttle, The School: A Personal History*

The Right Man for the Time and Place

"It is truth and not a cliché that in being named state director of vocational education in 1967, Francis Tuttle was the right man for the time and place. He was selected carefully by Perky and the State Board. He also 'passed' the scrutiny of some friends of vocational education in other fields, whom Perky brought into the act without explaining exactly why—until later.

"There were similarities and differences between the two men who would have the greatest impact on vocational education in Oklahoma. Both were somewhat ambitious, but more for the programs they headed than personal…. If pressure was needed, they could both apply it, but Tuttle's was less abrasive in doing so than Perky. Tuttle inherited a programmatic dynasty as different in size and scope as 1917 was from 1967."

….

"Tuttle's role in economic development began with his first assignments in the state department. He and the times were both ready for economic development activities, from the hopeful function of skill training at area schools through the special schools programs for industry to an awakening interest in ways and means of increasing the productivity of American workers in the face of foreign competition. The man and the times were in equilibrium so far as Oklahoma was concerned."

—Roy P. Stewart, *Programs for People*

Timing is Everything

"At the time, only the few who knew history would even have noticed that Francis Tuttle was taking over Oklahoma's vocational education in the system's fiftieth year, and probably few of them would have believed that the timing was anything but coincidental. For most people, there was reason either to believe that the timing could have been better or that it could have been worse. There even was reason to believe that it could have been both or that it could have been neither. In 1967, though, there seemed to be no reason at all to attach any great importance to the accidents of timing.

"Now there is. Looking back upon it, this proved to be a time of changes so sweeping that it amounted to a second instance of what biologists call punctuated equilibrium. It had had happened before, back in 1917. At the moment President Woodrow Wilson signed the Smith-Hughes Act into law everything that had been America's vocational education crumbled and everything that became its vocational education arose. It had been as if an entire ecological equilibrium suddenly had caved in and another had emerged to replace it.

"In Oklahoma, that happened again almost exactly fifty years later. In a stunningly short time, Oklahomans reinvented almost everything about their state's vocational education — its mission, its organization, its governance, its funding, everything, even its name. In Oklahoma, vocational education changed so swiftly, so completely, and so permanently that its past was closed off into history and its present opened into the future."

—Danney Goble, *Learning to Earn*

July 1, 1968: Another Declaration of Independence

"On that day, Oklahoma made the oversight of vocational education the single purpose of a newly defined, distinct official board—the State Board of Vocational and Technical Education. Because its members included the elected superintendent of public instruction (whom statute assigned to chair it) along with the six members of the state education board, it was assured both continuity with the past and cooperation in the future. Because those were joined by six other members (each appointed by the governor) plus the state director in a non-voting capacity, its primary role was plain. It was to guide a new, independent agency created by the same statute: the State Department of Vocational and Technical Education.

"There had been no such thing in Oklahoma. In most states, there still is not. In Oklahoma's case (probably in quite a few others' too) vocational education had been treated as an ill-fitting appendage, always and awkwardly attached to something else, usually something that did not particularly want it hanging on. On July 1, 1968, though, vocational education in Oklahoma at last became what it is today. Its status is that of an independent executive agency that answers only to its own, equally independent governing board. Since 1968, the consequence has been that vocational education enjoys a stature and security in Oklahoma that no other system has anywhere else."

—Danney Goble, *Learning to Earn*

Everything Changed in One Year

"Until then, the system's working structure remained pretty much what it always had been: a handful of divisions, almost all set up occupation by occupation—farmers here, tradesmen there, homemakers out back. Every once in a while a new division had come along, usually because Washington had said it had to. Area schools had been assigned to an independent division in 1964, but that was because federal law said they had to be. Given that four years had produced five schools, it had hardly been overworked.

"Of the ten divisions that constituted the system as late as the 1967-1968 school year, seven were occupationally based: agriculture, trade and industrial education, home economics education, business and office education, distributive education, health occupations education, and industrial arts. The first three, in fact, had comprised the original bureaucratic structure, the one of 1917. Not much had changed in fifty years. Then everything changed in one year. Five new divisions appeared almost overnight. At least as important as the number was their common purpose. Not one was designed to serve any one occupation or group of occupations. All were defined solely by a function, and each was assigned responsibility for its share of the system's overall administrative needs.

"One was to oversee business and finance. Another was to administer manpower training. A third was responsible for research, planning, and evaluation. Educational services were given to a fourth. The fifth was generally to supervise and coordinate special services—something of a catch-all category."

—Danney Goble, *Learning to Earn*

The Area School Movement

"A phenomenon of our times in vocational education began with enactment of the federal act of 1963 [National Education Improvement Act] and later was broadened. This was the area school movement. Nationally, and in Oklahoma, it added a new dimension in occupational training, sharing a school day with a participating high school. Students retained a home school base and met requirements there. At the area school they had a wide range of training programs, some in clusters, varying in number according to the size of the district but basically many more than could be offered at a single high school. These primarily were for high school juniors and seniors. Adults were provided with evening classes and, in some cases, where available training slots were not filled, were permitted to enroll as day students if they had time for this."

—Roy P. Stewart, *Programs for People*

"That is not to say that the 1963 law had no noticeable consequences for Oklahoma. It did. At least it did when the state had little choice, and it had almost no choice at all over what to do with a third of its new money. That was what the law set aside either for adult, postsecondary education or for a system of area secondary schools. Forced to do one or the other, Oklahoma chose to do both."

—Danney Goble, *Learning to Earn*

Francis Tuttle is Sent on a Mission

"Tuttle, having gone aboard the state department staff in 1964, was sent on a mission following passage of the pertinent act by Director J.B. Perky to states which already had started area schools in the hope that his department would make fewer mistakes by absorption of experience. 'Among these states were North and South Carolina, Georgia, Pennsylvania, and Connecticut,' Tuttle said in an interview."

—Roy P. Stewart, *Programs for People*

520 Paves the Way for 434

"[House Joint Resolution 520, or HJR 520] allowed the establishment of area school districts by the State Board for Vocational Education and a one-time vote for the annual collection of a tax levy not to exceed five mills on the property valuation of an area school district for support of that district.

"Many common education supporters were not enamored with the area school concept. They saw the new taxing district as a threat to their ability to pass their own operating millage and bond issues to build and maintain their schools. There was also the rural versus urban issue. The state Supreme Court had reapportioned the legislature in 1964, partially because of the issue. The Senate membership was increased from 44 to 48 and the districts had been drawn to allow for better urban representation.

"HJR 520 passed July 14, 1965, on a 37 to 6 vote with five senators not voting. The second and crucial vote was on the provision that called for this issue to be placed before the voters at a Special Election on May 24, 1966. A vote to call a Special Election required two-thirds majority vote. This provision passed with 42 yes and only three no votes, with three not voting.

"The process had been a struggle, but the best minds had tackled the problem and the result proved to be the best area school legislation in the nation. Francis Tuttle had much to celebrate. He had his constitutional amendment ready to go to the voters [as State Question 434]—and he received his Doctorate in Education Administration from the University of Oklahoma."

—Suzette Northcutt Rhodes, F*rancis Tuttle, The School: A Personal History*

A Super School District

"'The local education agencies [said Francis Tuttle] did not have enough resources to support the vocational school as it should be supported. It had to be funded out of the regular school budget. There was no way then for other districts to help by participating in the purchase of equipment or buildings, even though there was federal money to match funds of the original schools. Even the local one-half was difficult to raise at times. So, we sought a way for districts to secure funding. We decided to form a super school district and call it a vocational school district, giving them the power to tax plus a board of their own, superimposed on districts that joined voluntarily after voting by patrons, but not offering anything but vocational education.'"

—Roy P. Stewart, *Programs for People*

A Step Back to Go Forward

"Dr. Tuttle and his staff had a plan for vocational education in Oklahoma. Their plan included dividing the state into seventeen area vocational school districts. They based their plan on the South Carolina model, which included a network of thirteen "special schools" that provided industrial training. However, Tuttle envisioned something more for Oklahoma: a network of vocational schools that afforded high school vocational programs, industry training and adult education in the same physical facility, built and operated with the help of federal dollars made available to states.

"The seventeen proposed districts would blanket the state with vocational education. If Dr. Tuttle had been successful in getting this first plan adopted and sanctioned by the State Board for Vocational Education, Francis Tuttle, the school, would never have been created. Fate intervened in the person of Senator Clem Hamilton.

"Senator Hamilton, a key player in the passage of HJR 520, had other ideas about Tuttle's plan. Hamilton was a school superintendent in southeast Oklahoma when he wasn't legislating in Oklahoma City. He didn't want his district to be forced into an arbitrary area vocational school district.

"Hamilton had another edge when he came to the State Board for Vocational Education, whose members were also members of the State Board of Education. Hamilton was chairman of the Education Appropriations Committee. This committee decided the annual monetary fate of the Department of Education. The Board listened to Hamilton. Tuttle was instructed to draft another plan."

—Suzette Northcutt Rhodes, *Francis Tuttle, The School: A Personal History*

Five and a First

Before the passage of SQ 434 in 1966, five area vocational-technical schools were formed that were a part of their public school districts: Tulsa Tech, Foster Estes (which would eventually become Metro Tech), Red River in Duncan, Southern Oklahoma in Ardmore and O.T. Autry in Enid. While it is recognized that Tulsa was the first entity to form an area school district, all five of these schools "stuck their necks out" to test the new concept of the "area vo-tech school."

District voters approved Tri-County Tech in Bartlesville as the state's first area vocational-technical school in 1967.

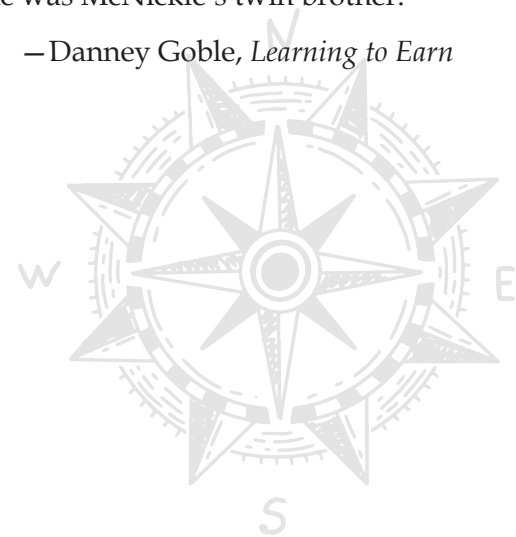
—*Major Milestones of Career & Technology Education in Oklahoma,* Oklahoma Department of Career and Technology Education

The General Takes Charge

"His command gave the general [General Melvin McNickle] the responsibility for filling thousands of civilian jobs, the kind of jobs that came with steady and comfortable paychecks, but his problem was that the vocational system was sending him no more than a handful of people able to fill them. It ended up that the United States Air Force was having to do what the Oklahoma vocational system was supposed to be doing. The Air Force was having to prepare and teach its own vocational classes to train its own civilian employees—and the United States of America had not ordered Major General Melvin McNickle to come to Oklahoma so he could run some school.

"[W]hen Alexander and party landed at a military airfield in Columbia, South Carolina, it looked for all the world like the general was there waiting for them. An air force general did greet them—the general who commanded the South Carolina airbase—but the confusion was understandable: This one was McNickle's twin brother."

—Danney Goble, *Learning to Earn*



Learning How to Make the Future

"In the beginning, Alexander saw and Oklahoma copied. The most obvious borrowing involved what both states [Oklahoma and South Carolina] then called special schools—Oklahoma borrowed the term, too—and they were the first to assign them their own division at the state level. In both states, these so-called special schools tended to be more special than schools. They offered customized instruction in ad hoc facilities, instant schools built to do one thing, one time. That was to provide the start-up training to guarantee new employers the workforce they needed to be productive from day one. The idea originated in South Carolina. Oklahoma was the first state to do the same. In little time, Oklahoma's version may have equaled South Carolina's. In not much more, Oklahoma's probably surpassed it."

….

"Arch Alexander was not through in South Carolina, not by a long shot. He ended up going back and forth, between there and Oklahoma, for the better part of a year. Maybe that was because he had to carry back considerably more than the one lesson Dewey Bartlett had taken from [Ohio] Governor Rhodes's office. Bartlett had learned what vocational education could do. Alexander—and Tuttle and a lot of other people—were learning how South Carolina did it. The common lesson was that vocational education could be redefined, not only to fit the ideals of some policymakers and social planners in Washington, but to serve the practical needs of businessmen and politicians right at home. Vocational education ought to mean industrial recruitment, job creation, and economic development. Defined like that, vocational education might turn out to be

what defined Oklahoma's future. A new federal law had helped make that possible. Oklahoma's governor, legislators, and vocational educators made it happen."

—Danney Goble, *Learning to Earn*

Relatability Plays a Role

"In the early days, technical assistance on various training programs set up was expected to come from respective program areas in the department [SDVTE/ODCTE]. This worked well in some instances, but soon it became apparent that demands of time interfered with an individual's own work.

"To support the new effort, an attempt was made to utilize retired OSU professors with expertise in skill areas… Inquiries showed that some other states had used persons with an engineering background…Engineers could help on production line matters, but vocational education persons could relate better."

—Roy P. Stewart, P*rograms for People*

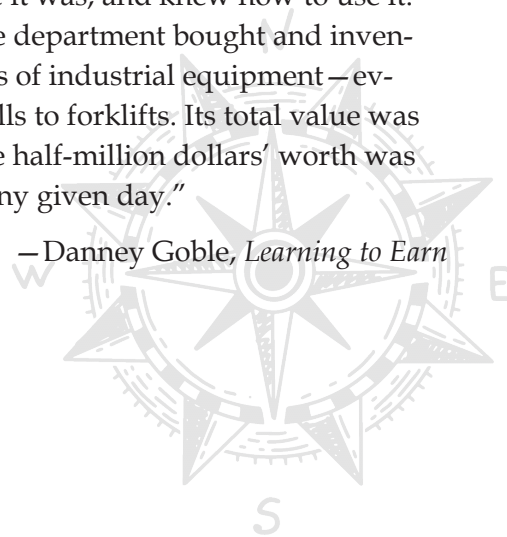
Pooled Resources

"Among Oklahoma's improvements was its better organized and better managed equipment pool. Both states [Oklahoma and South Carolina] poured money, imagination, and energy into creating these reservoirs and filling them with anything any employer might expect any new employee in any new plant to operate. They made sure that every piece was the latest and best available, and all of the other states were left to look on jealously from the shadows.

"Oklahoma never tried to conceal its pool from anyone, especially not from politicians and educators. It was politicians who made the pool possible, especially the legislators who enacted, in 1970, a special law permitting the vo-tech department to purchase and lend industrial equipment. From the moment its new, 20,000 square-foot facility opened, in 1972, the department made sure that every politician, every educator, and every business manager knew what it had, knew where it was, and knew how to use it.

"In only five years, the department bought and inventoried some 55,000 pieces of industrial equipment—everything from power drills to forklifts. Its total value was $14 million. All but some half-million dollars' worth was somewhere on loan on any given day."

—Danney Goble, *Learning to Earn*



Primed for Industry

"In Oklahoma in 1969…conditions were excellent to venture into new areas. Here were the cloth and the cutters just awaiting a climate in which they could finish an economical garment. There was a master 'tailor' available, too, in the person of Governor Dewey F. Bartlett, who was gung-ho for industrial development.

"Some of this later would mature into what was called 'Sun Belt vs. Frost Belt' competition. Bartlett had already seen the potential and became a prime mover in importing industry. He created volunteer and unpaid task forces from various sections of the economy. His encouragement and his personal friendships back East were responsible for the greater success of industry hunters than had been the case in previous administrations."

—Roy P. Stewart, *Programs for People*

Forging a Model for Industry

"Guarantees were made to industrial prospects that the state—through the Vocational Education Department—would train first work forces, provide training sites, supply equipment needed for training…and even write training manuals acceptable to that particular industry. A Special Schools Division was put in the State Department (now called the Training for Industry Program, or TIP). One of the first activities of this unit came when Governor Bartlett went to Ohio and talked Matt Dalton into placing a forging plant in Cushing. Vocational people here trained the initial force—and the word got around."

—Roy P. Stewart, *Programs for People*

TIP Legacy

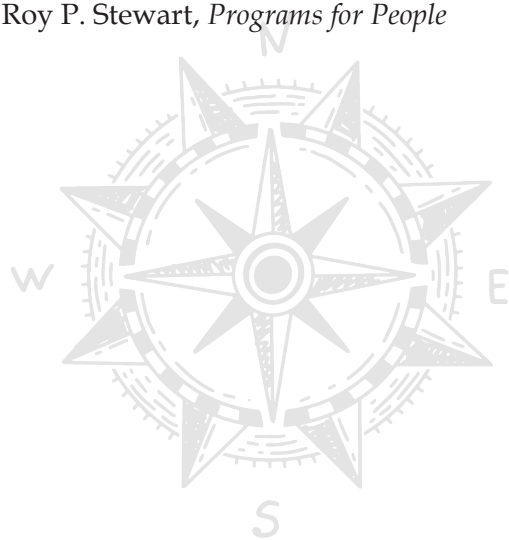
"In its first thirty years, more than a thousand companies had called upon TIP's services for the design and delivery of customized training programs. General Motors, Seagate, Lucent Technologies, America Online, Whirlpool, both Southwest and American Airlines—these and hundreds more had received everything they had wanted, everything from needs assessments, to both pre-employment and pre-production training, to curriculum development, to final skills instruction and skills upgrading. They also had gotten what they wanted wherever they wanted it, either at a state facility or at their own site. And not one company had paid one penny for any of it."

—Danney Goble, *Learning to Earn*

A Force of Nature and a Dedication

"The offices of the various program areas in vocational education—and its related fiscal and other operations—once were spread from Stillwater to Oklahoma City. Then they began to be gathered into an OSU-owned structure left over from World War II at 1515 West Sixth Street in Stillwater. The first major enlargement of the state vocational offices was the construction of an addition, then rented (as were the other buildings) to the state department of vocational education, on the south side of the original building on Sixth Street. This addition was named the J.B. Perky Building by the OSU board of regents after receipt of many letters making this request, and it was dedicated on August 8, 1971. Shortly after the ceremonies outside were completed, those gathered moved inside for a reception—just as a thunderstorm swept across Stillwater and knocked the power out. Refreshments were served by candle and flashlight."

—Roy P. Stewart, *Programs for People*



A Revolution in Management

"…Tuttle put in place a participatory, team approach, thereby igniting an instant but long-awaited revolution so forceful that it became an institution. Simply put, it was—and is—how things are done.

"This is how Francis Tuttle describes it:

'Based on input from the staff that worked with programs in the field and from interaction with business, industry, the legislature, and the board, we established departmental goals. Each division was responsible for carrying out those programs and providing those services that would assure our goals were accomplished.'

"Notice two of the smallest words he uses: 'we' and 'our.' They made the biggest difference of all, the difference that makes leadership participatory. One form is what Tuttle called a management team. Again, here is his own account and description. Note the consequences that he ascribes to it, and notice this time his big words and complex phrases.

'I used my management team to develop direction and to recommend policy, but I also tried to delegate decision-making to the division heads as often as possible. . . . Having a separate staff that devotes its entire attention to vocational education assures adequate time and expertise for new projects and to resolving deficiencies in existing programs. The vocational education specialists have the opportunity to develop the expertise and experience that is needed to deal with the complex issues of industry training; productivity improvement; government contracting; industry-specific, short-term training programs; and employment of disadvantaged adults, handicapped youth and adults, high school dropouts, dislocated workers, and

inmates. Without the support of a separate board and the availability of skilled vocational specialists, these areas would not be adequately addressed and as much progress would not have been made.'

"Big words are scattered all over here—to 'delegate' 'decision-making' to 'specialists' with the 'expertise' to remedy 'deficiencies'—words like that. They bump up against some pretty complicated terms, too: things like 'productivity improvement;' 'government contracting;' 'industry-specific, short-term training;' and 'employment of disadvantaged adults, handicapped youth and adults, high school dropouts, dislocated workers, and inmates.'

"The juxtaposition explains why every instrument and every method of leadership had to change: Too much had become too complicated for any one person, whoever that person might be. There had to be a management team, and it had to use all of the talents and all of the energy available in a large, diverse, and expert staff."

—Danney Goble, *Learning to Earn*

Alexander Becomes the XO

"Like those whom Perky had nurtured over the years, Tuttle's proteges shared a common background, but theirs was a very different one. Few were veterans of vocational agriculture, but several did have doctorates in education. In other words, they tended to be a lot like Francis Tuttle and Arch Alexander.

"Alexander, of course, had been Tuttle's first pick, one worth fighting for. Tuttle had put him in the highest post then available, one of his assistant directors. Just as soon as he could get another position authorized, in 1972, Tuttle had moved Alexander in it: deputy state director. He was always more than a deputy, though; executive operating officer would have been more like it. The reason was that Arch Alexander managed the state agency and its entire staff day-in and day-out, leaving Francis Tuttle free to deal with school superintendents, policy-makers, and the top people in business and industry."

—Danney Goble, *Learning to Earn*

A Pioneer in Research for Vocational Education

"The Oklahoma Vocational Research Coordinating Unit (RCU) was established at OSU on July 15, 1965, as a result of a federal grant from HEW. Twenty-four states were awarded grants that year for the purpose of establishing research coordination units….

"In February of 1966, all 24 states were represented in a meeting at the Center for Vocational Research at Ohio State University. The reason for that conference was to delineate the purpose for RCUs and to establish a means of communication and coordination among and within states. Much was accomplished at that meeting—perhaps because there was considerable snow on the ground when participants arrived; then an additional eight inches of snow was dumped on them the first night. Transportation around Columbus was difficult, to say the least, so conference participants worked on RCU organization.

"The objectives, in those early days, were to coordinate research activities within Oklahoma and among the other states; to generate research ideas and to conduct research projects; to assist vocational researchers in their work; and to disseminate results of research activities…The RCU continued under federal grants for three years and, during that time, conducted or assisted in 50 research projects. The peak staff number during this period included the director and assistant director, five half-time graduate research assistants, and two secretaries. In September of 1969 the RCU became an arm of the State Department of Vocational and Technical Education, although it was still located on the OSU campus.

"…[T]he 1968 amendments to the Vocational Education Act of 1963 stated that research coordination units could be funded appropriately by state departments from Part IV-C of federal research funds. Thus, [the] RCU became involved in several capacity-building grants to accomplish mandates in the 1968 amendments related to planning and evaluation. As systems were developed, the RCU added staff to operate and refine those systems. By 1970 the RCU had expanded to become a division of Research, Planning, and Evaluation and was staffed by six full-time professionals, six half-time graduate research assistants, and three secretaries….

"The RCU staff was moved physically from the OSU campus to offices in the J.B. Perky building when it was completed in December of 1969. Although the staff remained on the OSU payroll, physical location at the State Vo-Tech Department created much stronger communication ties with state department staff, particularly curriculum personnel and the program supervisors. As a result of the 1976 amendments, the RCU payroll was moved in 1977 from the university to the state department. After 11 years of operation as the research arm of the Department, the RCU staff became bona fide members of the state staff.

….

"A number of RCU activities have had great impact in Oklahoma, and some have affected a number of states. The Occupational Training and Information System (OTIS) project was initiated…to develop a manpower demand-and-supply information system for use in state and local planning and to meet the needs of industry and students…

…

"A study completed by Charles Hopkins in 1968, and revised in 1970, identified the most appropriate area vocational-technical school districts and the most feasible school sites to make vocational education available to all students in Oklahoma. The area school system in Oklahoma today closely resembles that recommended in 1970.

"Hopkins became the first 'planner' in the RCU with responsibility for development and compilation of the state plan, and for development of a long-range master plan for vocational education in Oklahoma….

….

"After the 1968 Amendments were passed, the U.S. Office of Education contracted with the Oklahoma RCU to hold a national conference for the purpose of developing a handbook which would guide state departments in carrying out the spirit of the research-and-development function mandated by PL 88-210. That handbook, Research Handbook for Vocational-Technical Education published by the RCU at OSU, became the guide for vocational research and research-related activities in the nation for the next five years—and is still noted for its guiding principles and educational-change model.

….

"Hopkins introduced Management by Objective to the RCU in 1971; the state department went to an MBO system in 1972, guided by Hopkins and [Bill] Stevenson. Over the next three years, these two RCU staff held workshops in more than half the states to introduce MBO to State Departments of Education.

"The above items, for the most part, are 'capacity-building' developmental activities, which have helped the state

department to improve its leadership functions. Many, many research projects have related more directly to the better serving of vocational students."

—Roy P. Stewart, *Programs for People*

OTIS Spots the Gaps

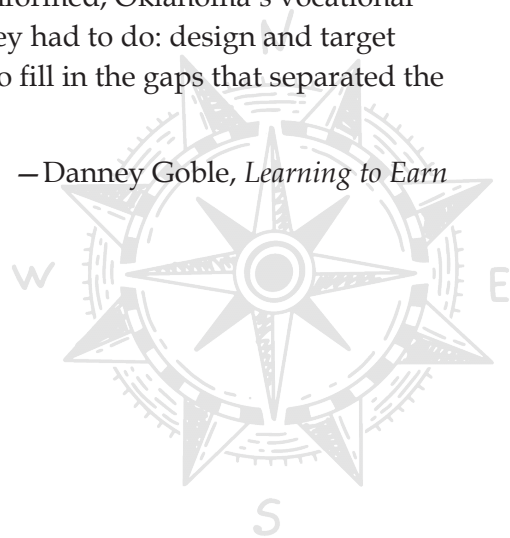
"When the Vocational Education Act of 1963 obligated each state to use a portion of its federal allotment for planning…Oklahoma complied, but it just complied. It did so not by choice and not with enthusiasm.

"There was a notable difference after the 1968 Amendments tightened Washington's demands. That time, Oklahoma responded immediately as well as eagerly.

"Before the year was out, the state department had funded, staffed, and put to work an entire new division devoted purely to research, planning, and evaluation.

"More than that, a partnership with Oklahoma State University already had generated one of the nation's earliest and most comprehensive research tools, OTIS, the Occupational Training Information System. For the first time, OTIS recorded the jobs available at the time and forecast those that would have to be filled in the future. Against those it set the numbers of skilled workers that were or would be available. So informed, Oklahoma's vocational educators knew what they had to do: design and target new training programs to fill in the gaps that separated the sets of numbers."

—Danney Goble, *Learning to Earn*



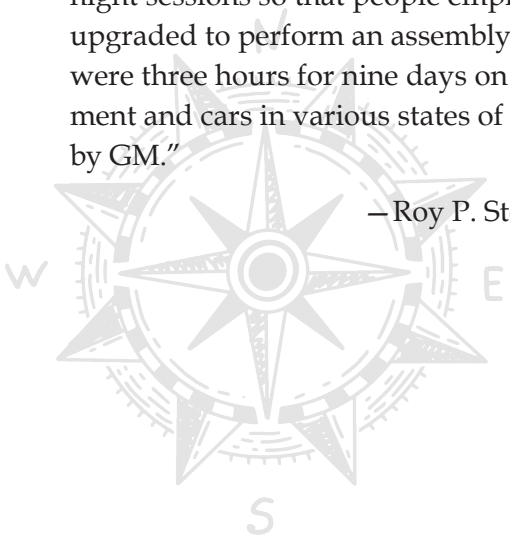
Oklahoma City: The Other Motor City

"Perhaps the largest industrial training project under [Francis] Tuttle's overall direction was that at the sprawling General Motors plant at Oklahoma City. Using a spacious former discount store building, he had installed there, with GM's help, the same assembly line equipment that workers would have in the plant. Training manuals, worked out jointly, were prepared, and the force was trained. Later, when the plant opened and the first monthly report was sent to Detroit, the figures on absenteeism (or rather the lack of it) stirred the home office of General Motors. An executive called the Oklahoma City plant to say, 'You'd better go back and study your figures. They can't be right.'"

….

"A vacant former discount house in Midwest City was leased as the site to train GM entry-level personnel. Classes continued there for almost two years with both day and night sessions so that people employed elsewhere might be upgraded to perform an assembly line job on cars. Classes were three hours for nine days on easier jobs. Some equipment and cars in various states of assembly were provided by GM."

—Roy P. Stewart, *Programs for People*



Governor Bartlett Recognizes Twin Purposes of Area Schools

"The curriculum for area schools is predicated on the primary purpose of serving needs for workers in the local community, while a secondary purpose is training for state needs. 'That is where Governor Bartlett became such a strong supporter of vocational education,' Tuttle said. 'He thought that we had the mechanism, the expertise, and the administrative ability to accomplish both of these services.'"

—Roy P. Stewart, *Programs for People*

Francis Tuttle Recognizes the Need for a Seamless Curriculum

"Statement of the Problem

"The major purpose of education is to prepare young people to live satisfying and productive lives. However, many young people are leaving school without entry-level job skills, the behavioral characteristics, and the basic general knowledge necessary to live and participate successfully in society.

"In typical schools throughout the country young people have charged that curriculums are dull and irrelevant and that their education is not equipping them for a rewarding and productive adulthood. Some parents and teachers also question the value of educational experiences in preparing students to live useful and satisfying lives. Employers are finding that young people are poorly trained in the occupational skills and are lacking the behavioral characteristics necessary to perform competently in the world of work.

"These problems underscore the need for reorganizing the total curriculum and finding means for developing and testing promising, innovative instructional materials to prepare the student to enter the job market with a salable skill and/or to continue his/her education.

"To meet this need the Oklahoma State Department of Vocational and Technical Education proposed to: 1) strengthen the present curriculum management capabilities of the Oklahoma Curriculum and Instructional Materials Center to further research the social and theoretical foundations for development and implementation of curricula, and 2) blend the present curricula in vocational

education, general education, and college preparatory education into one curriculum."

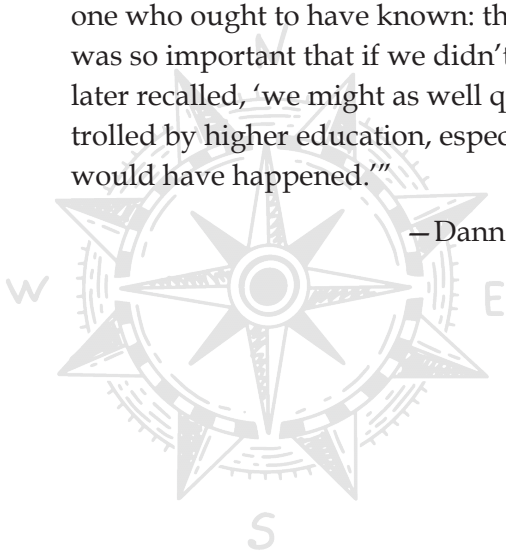
—Francis Tuttle, *The Oklahoma State Department of Vocational and Technical Education Curriculum Laboratory Grant Research Project in Vocational Education, Final Report*, Grant OEG-0-72-4682 (361), June 30, 1975

"If We Didn't Win This, We Might as Well Quit"

"Who would control postsecondary technical training? At first, there were compromises. (Between 1973 and 1981, the State Board of Vocational and Technical Education formally contracted with the State Regents for Higher Education to turn over the federal funds it received to support technical and occupational programs offered in the state's colleges.) Then the compromises broke down. (In 1981 the regents voted to refuse any of Washington's money if it came through the vocational department and ended their relationship outright.) Next, there was open and public conflict. (The regents announced that any adult training or postsecondary education would be done in a state college or it would not be done at all.) In the end, there was a court fight. (The fight went all the way to the state supreme court because neither side was willing to drop it.)

"Was it worth all that? Did it make a difference? Ask one who ought to have known: the winner. 'I thought it was so important that if we didn't win this,' Francis Tuttle later recalled, 'we might as well quit. If we'd been controlled by higher education, especially Dunlap, nothing would have happened.'"

—Danney Goble, *Learning to Earn*



Curriculum for Training Consistency and Accountability

"In its Vocational Education Amendments of 1968, Congress had ordered every state to establish and maintain a division responsible for planning curriculum and instruction. Nineteen sixty-eight also happened to be when teams of external investigators said that Oklahoma's vocational system had a chance for national prominence if it could achieve first-rate work there, and first-rate work is exactly what Francis Tuttle and Ron Meek had in mind when they started—in 1968, of course.

"Tuttle put Meek, whom Jim Perky had appreciated enough to assign him to agriculture mechanics, in charge of building a planning division for curriculum and instruction, and he told him to make it work. He even dispatched Meek to see firsthand if any other states were doing anything worthwhile in curriculum and instruction—sent him, in fact, to every one of the twenty states doing anything at all. He also encouraged Meek to attend every workshop, seminar, and teachers' meeting if any might have anything that might help. The immediate result came that very year, in 1968, when Francis Tuttle and Ron Meek came up with what they called a Curriculum and Instructional Materials Center (CIMC)."

—Danney Goble, *Learning to Earn*

"Much has been written concerning the development of curriculum using performance (behavioral) objectives the past few years. But where are the instructional materials that were developed using this approach?...Everyone is

talking about developing curriculum using performance objectives, but when it gets right down to it, they are doing very little."

—*Writing, Teaching & Supplementing A Unit of Instruction*, Curriculum and Instructional Materials Center, 1975

Oklahoma Organizes a National Curriculum Consortium

"…[A] need was identified for instructional materials that were needed mutually by many states. In order to develop the materials, MAVCC [the Mid-America Vocational Curriculum Consortium] was organized in the central part of the United States [in 1975] as a separate, non-profit corporation. Because of legal restraints within some states wishing to participate, the Oklahoma SDVTE was selected to be the administering agency….

….

"The consortium concept has proved to have many advantages for educators of the member states. The states are North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, Louisiana, Arkansas, Missouri, New Mexico, and Colorado. They have found that pooling their efforts has saved them a tremendous amount of dollars because of cost sharing. In addition, they feel that the quality and validity of materials are strengthened because of the additional involvement, rather than completing a project strictly within one state.

"'One asks if there are other organizations like MAVCC. My response is that there are other consortium efforts where states join to accomplish a mutual goal. But, at this time, there are not any other groups developing curriculum materials for both the teacher and student as is being done by MAVCC. Most other groups are spending their resources in the development of competency listings or learning activity packages. Probably the uniqueness of MAVCC's completed products has contributed to [the]

success of the organization,' Dr. Benson said [Ann Benson, first executive director of MAVCC and later director of the state agency]."

—Roy P. Stewart, *Programs for People*

Roy Peters Steps Up

"In 1959, while a student at little Alex High School, Roy Peters, Jr. was elected national president of the Future Business Leaders of America, the student group affiliated with business and office education. Leaving Alex for Norman, he took a degree in business education and landed his first job, teaching business and distributive education classes at Oklahoma City's U. S. Grant High School, in 1964. Peters joined the state department, to teach adult marketing programs, in 1971, the same year that he earned his master's degree from Oklahoma State. When the Moore-Norman Area Vo-Tech School opened in 1973, its first superintendent (Clovis Weatherford) recruited Roy Peters as his assistant. He held that job until he took over the Canadian Valley AVTS, with campuses in El Reno and Chickasha, in 1981. More than a half-dozen new programs were in place and $1.5 million of new construction was nearing completion when Peters left that for his new assignment, in 1984.

"That was when Roy Peters became Francis Tuttle's associate state director, whatever that was. What it was was director-in-waiting. The path that Tuttle, himself, had followed—joining the state staff, learning the ropes, handling the responsibilities, proving that he was the right person in the right place at the right time—that was the path he opened for Roy Peters. Its destination was the same, too. After Francis Tuttle retired, on December 31, 1985, Roy Peters stepped up to be his successor."

—Danney Goble, *Learning to Earn*

Roy Peters Reaches Higher

"…even Francis Tuttle had been persuaded that vocational and academic education were utterly different in every respect—in what they taught, in whom they taught, in how they taught, in how they tested, in everything. To Tuttle, their differences had been so absolute that their separation was as essential as it was inevitable. In fact, separation of the two was what Francis Tuttle had decided was "the most significant factor in the development of Oklahoma's quality vocational education programs.

"When Roy Peters took over the Oklahoma system, circumstances were changing even if attitudes were not—not yet. For one thing, federal legislation, beginning in 1963 and accelerating rapidly since 1968, was steadily less tolerant of institutional warfare and becoming dependably more agreeable to paying for peace. More important, both higher education and vocational education were being remade in Oklahoma with the spread of an altogether new institution that was neither one nor the other but both: the metropolitan, two-year college.

….

"[Hans] Brisch was E. T. Dunlap's successor as higher education's chancellor, and Brisch was as different from Dunlap as Peters was from Jim Perky. Personalities alone may not have made that much difference, but they certainly did nothing to impede what the two were resolved to work out—a series of cooperative agreements that linked specific occupational programs at particular colleges with the vocational offerings at nearby area schools."

"…[T]he presence of the Federal Aviation Administration's huge Mike Monroney Aeronautical Center adjacent to Oklahoma City's Will Rogers World Airport had drawn

both Oklahoma City Community College and the Metro Area Vocational-Technical School into offering what amounted to the same programs in aircraft mechanics and maintenance. By coordinating what they offered and when they offered it, the vocational-technical education department and the state regents made it possible for students to move from site to site and also to earn college credit for their vocational courses."

—Danney Goble, *Learning to Earn*

A Champion of Mutual Interests

"While reaching toward the colleges, Roy Peters reached in another direction as well, toward what Oklahoma calls its 'common schools.' 'School-to-Work' was the name first given the gesture in Washington. Like much else, the name originated there, but Oklahoma pioneered some of its earliest and most creative local expressions.

"Some were as simple and as effective as 'Rad Week,' a pilot program that brought ninth and tenth graders from a half-dozen communities to Woodward's High Plains AVTS. Funded entirely by the state department, the program was especially successful in getting both boys and girls to conceive of their futures as things to be determined for themselves by themselves, instead of as distant but unavoidable fates already defined because of their gender.

….

"The public schools of Altus, Drumright, Durant, Lawton, Oklahoma City, and Tulsa were first to develop some of the early initiatives. Helped by $3.2 million in federal grant money and inspired by the active involvement of the state vocational department, they asked parents and local business leaders to help design comprehensive programs that would define what students needed to learn at school by what they soon would need to know at work. The schools included both area vocational-technical schools and regular secondary schools. Once both academic and vocational courses had been redefined, each to complement the other, students would take classes at both schools.

….

"Because federal money had helped it happen—Oklahoma received $1.7 million for key start-up funds that

year—one brutal political fight after another was necessary to sustain it. Given the 1994 election results, that had to be expected. Not many would have expected vocational education to lead the fight, though, stepping forward to champion not merely its own claims but the interests of both secondary and higher education as well. Expected or not, that is precisely what happened, and it was evidence of how important vocational education was becoming to academic instruction at every level."

—Danney Goble, *Learning to Earn*

The Need to Educate in a New Way

"Too many students, he [Roy Peters] argued, 'wandered through the cafeteria line of [regular, academic] education spending too much time in the desserts.' High on his list of intellectual junk foods were the academic subjects that were being taught as general courses in science, mathematics, or whatever. They could not help but be too easy because they had to be unfocused and disconnected. They—not their students—should be sent away, far away, never to return. In their place should be hard courses, applied courses, courses like calculus, physics, chemistry, and biology.

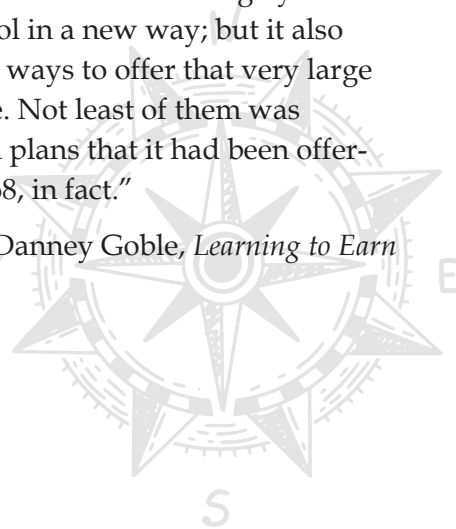
"This was not just because students deserved excellence in both their vocational and their academic studies. It was because there could be no excellence in one unless there was excellence in the other. The reason was that the two forms of instruction were actually one, for they had not two purposes but one: to prepare competent workers who were competent thinkers. 'We can no longer school like we used to school' was his message.

"At least in its vocational programs, Oklahoma was no longer schooling as it had been. Already it was schooling people both to hold better jobs and to live better lives. Its several dropout prevention and recovery programs provided life-redeeming second chances for kids too often written off before. Twenty 'welfare-to-work' programs equipped welfare recipients with the job skills to land good jobs and with the personal and social skills to keep them. In the state's many penal institutions, what the department called Skills Centers enjoyed a national reputation for returning inmates to society as productive citizens rather than as criminals temporarily between prison terms.

"In a sense, the projects under the division of Skills Centers offered especially useful models for what creative schooling could achieve for any student in any circumstances. One consisted of a public-private partnership with both the State Office of Juvenile Affairs and the Associated General Contractors of Oklahoma. That project approached troubled kids in the state's custody not as criminals-in-waiting but as clients-in-training, and their training only started with instruction in the skills they might need for the jobs the contractors might want to fill. It also strengthened their academic skills in everything from math to reading by relating everything directly to the construction trade. No less important were simple lessons they obviously had never learned, partly because there had been no kind of schooling for those lessons. How to live on their own, how to work in a team, even how to establish utility service and how to balance a checkbook—all of these figured in, as well. They all got down to schooling in life skills.

"In all of these ways, Oklahoma was showing by example what it meant to school in a new way; but it also employed other, more direct ways to offer that very large lesson to a very big audience. Not least of them was through the packaged lesson plans that it had been offering for some time—since 1968, in fact."

—Danney Goble, *Learning to Earn*



A Leader in Gender Equity

"Jim Perky, Francis Tuttle, Roy Peters, Ann Benson—of course, she was the first woman to hold the director's job, but by 1999 that fact may have been more incidental than anything else. At least, it may have been incidental with the Oklahoma Department of Vocational and Technical Education, for that was about the only species of education in Oklahoma in which gender tended to be insignificant, if not irrelevant.

"It was one of the things that set the vocational system apart, not only for its history but also for the consequences. In 1999, when Dr. Ann Benson became state director, only 37 of Oklahoma's 547 public school superintendents were women. In 1999, when women comprised well over half of higher education's students, only one woman headed any of Oklahoma's twenty-seven colleges and universities, Joe Anna Hibler, at Southwestern Oklahoma State University. In 1999, there was not one woman among the nine members of the State Regents for Higher Education. In fact, only six had ever sat on the board since its creation, in 1941.

"Even that dismal record might have been enviable for the first half-century of vocational education in Oklahoma. Not surprisingly, Oklahoma's vocational education department had had to overcome quite a bit of its own history to reach where it was in 1999. In reaching there, the department had made some pretty important history as well.

"Jim Perky, who could not have been unaware of his prejudices and who must not have been ashamed of them either, had revealed them on every single payday of his very long tenure. As late as the day that he picked up his own, last paycheck, Jim Perky and every other man on the state staff had taken home bigger checks than any

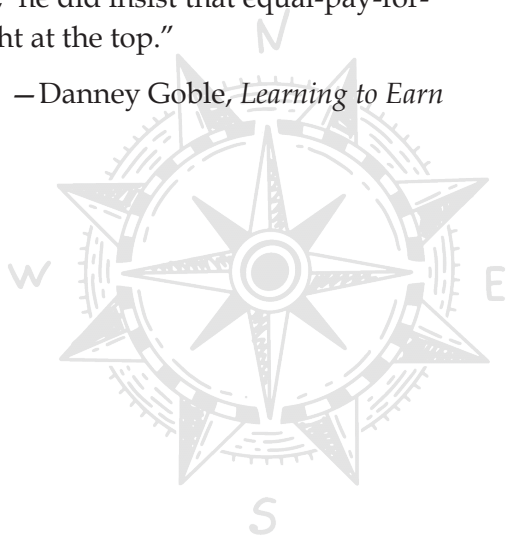
woman had received. That was true below the very top, too. Female supervisors in the home economics division, which meant every supervisor in home economics, got less than any male supervisor over in agriculture, which meant every supervisor in agriculture. Even within divisions—in health occupations, in distributive education, in every division in which women worked at the same level as men—the women always received less pay.

"Jim Perky's last payday was the last payday for that as well. Francis Tuttle's first act upon taking over [in 1967] was to set a single salary scale and apply it to every position, rank by rank, across every division. From that day on, women and men who have done the same work have earned the same pay."

….

"Asked [in 1996] what he considered his 'biggest accomplishment' in the eighteen years he had spent as state director, Tuttle replied that two or three things came immediately to mind. Without saying that one was 'any more important than the other,' he did insist that equal-pay-for-equal-work had to be right at the top."

—Danney Goble, *Learning to Earn*



Skills to Rebuild

After a series of tornadoes struck across the state on the evening of May 3, 1999, the state agency prepared and presented a comprehensive "Skills to Rebuild" curriculum through 13 of the area vocational-technical schools. The classes were intended to equip people with the skills they needed to repair their own homes and businesses.

—*Major Milestones of Career & Technology Education in Oklahoma: A Discussion Guide,* Oklahoma Department of Career and Technology Education

Failure Feeds a Foundation

"On February 18, 1970, the present organization was incorporated. Signatory members were Marvin Franklin, Bartlesville (later to be named chairman); Ken Domnick, Stillwater; Otha Grimes, Tulsa; William Kilpatrick and Guy Anthony, Oklahoma City; and Roy P. Stewart, then of Edmond.

"In September occurred something that gave the Vo-Tech Foundation a large boost, but persons who made it so a financial headache, in failure of an enormous cattle operation called Black Watch Farms. Headquartered near New York City, this was an operation dealing with registered Angus cattle, designed as a tax dodge for investors…

"At its peak Black Watch had 30,000 cows and a herd of bulls, plus 6,000 cows on its own account, pastured out on ranches and farms in 20 states. Maintenance fees were paid to persons who had charge of the cattle…

"…There was a business decline. Some investors defaulted on ownership payments or at least delayed in paying monthly bills. Growth of the operation resulted in more caretakers wanting their maintenance fees and feed reimbursement, and the cash flow started looking like an icicle in sunshine. Unhappy custodians of the cattle filed liens. Black Watch went broke and a receiver was appointed.

"Having qualified as a non-profit, charitable organization in October of 1970, the Vo-Tech Foundation saw an opportunity here. From the directorate Foundation Chairman Franklin appointed a cattle committee composed of Grimes, Stewart, and Byrle Killian. Grimes went to New York to talk to some investors about contributing their cattle to the Foundation and taking a tax credit. This was

successful over a few months and eventually the Foundation had nearly 500 mother cows, a few bulls, and some calves…

…

"The Foundation was in the cattle business almost four years. When the market improved in 1973, those that had not already been sold were shipped. The total venture was profitable for the Foundation. These proceeds, with funds passed through at desire of the Ford Foundation from various banks and the state agency, really put the Foundation in business…"

—Roy P. Stewart, *Programs for People*

What Every State Could and Should Be Doing

"…Consider the Vocational Education Amendments of 1976—another round in the regular updating of federal statutes. This one is known mostly for its insistence that sex discrimination end in all its forms, the overt as well as the subtle, the obvious as well as the concealed. With ten detailed prohibitions and mandates, the 1976 law was not about to miss its target, and it did not.

"In Oklahoma, however, everything that the law forbade and everything that the law required amounted to less than what the law offered — the opportunity for Oklahoma to do what was expected of it and then for Oklahoma to do the unexpected as well. The last is by far the most revealing.

"At the time, social scientists and policy analysts were only beginning to understand that women's economic disadvantages were only partly due to the kind of overt acts that the 1976 Amendments and other federal laws forbade. The greater cause, the most common as well, consisted of readily identifiable but entirely personal circumstances. Divorce, spousal abandonment, single parenthood, a husband's death—any of these were more likely to do more damage to more women than even the worst kinds of out-and-out employment discrimination. Pretty much nobody was thinking about those kinds of things back then, nobody but a few of Oklahoma's policy-makers and its top vocational educators; but they were doing more than thinking. They were acting.

"In 1978, with seed money from Governor David Boren's office, the vo-tech department set up a counseling, training, and job placement service for what it called

displaced homemakers. They typically were casualties of divorce, abandonment, or a husband's death, if they had ever been married at all. In one form or another, theirs were the misfortunes most likely to impoverish women and their children, if they had them.

"The Moore-Norman AVTS had the first pilot program, and it was so innovative and so productive that the United States Department of Labor searched it out and made it a model for what every state could and should be doing. More than that, Washington next put considerable federal money behind the effort; and the state legislature added more from Oklahoma, too. The flow of money soon made it available at fourteen sites in Oklahoma—not to mention at any number of sites that were being similarly funded in any number of other states. In that way, what a handful of Oklahomans had thought up on their own became one of the state's most important vocational projects and one of the nation's most promising social services."

Danney Goble, *Learning to Earn*

A Legacy of Innovation

TREASURE CHEST 3

OJT at the AVTS

"On at least one occasion, a major company's first 'plant' was an area vocational school. On a June day in 1977, when Goodyear Tire & Rubber broke ground for a new facility in Lawton—the ground being an empty cow pasture—its first employees were beginning their second day on the job. Some were transferred Goodyear supervisors; most were trainees hired the day before. Their workplace was Lawton's Great Plains area school, and the school remained Goodyear's home until contractors finally turned the pasture into a factory."

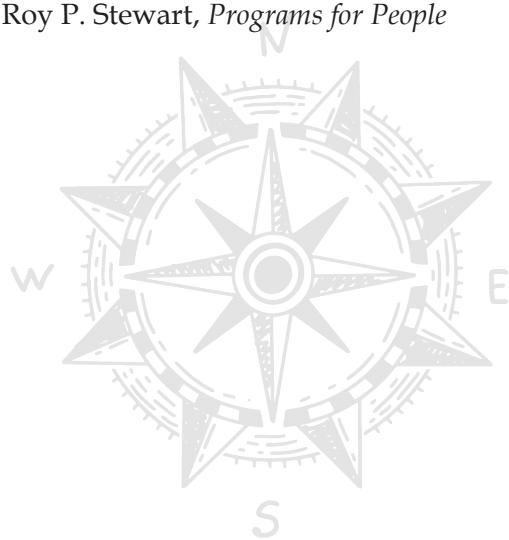
—Danney Goble, *Learning to Earn*

Of Meat and Men

"Another example [of innovative programs]…is a meat processing program at Western Oklahoma Area Vocational-Technical School at Burns Flat. This was started on January 15, 1973. The need for trained personnel in meat cutting was disclosed by a survey, and the location was exceptionally advantageous. The former air base had refrigerated meat chambers, freezers, and a certain amount of meat processing equipment for carcass sides (used when quality feeding was the norm there).

"Set up originally for adults only on an open-entry/open-exit plan, the course was for 46 weeks. Housing for married people also was available at the former air base through renovation. A full-time student pays $150 for the course, which includes linen service, safety equipment, and hand tools which may be kept upon completion. In 1980 the program was opened to high school students as a two-year course."

—Roy P. Stewart, *Programs for People*



A Place for the Displaced

"A program for displaced homemakers was perceived as a need because of the social climate of our time. Financial support for this came from the governor's special grants program…The initial pilot program for displaced homemakers was established at the Moore-Norman Area Vocational School in 1978.

"People served in the program typically are what the title describes. They may be emotionally worried, which is intensified by their need to enter the work force without always having a marketable skill."

—Roy P. Stewart, *Programs for People*

Oklahoma Strikes Opportunity

"As the deep exploration for oil and gas, primarily for gas, developed in western Oklahoma, it became obvious that a boomlet was underway. Because for the past several years drilling had been at a much slower pace, there was a shortage of experienced workmen. As the boom grew in intensity to rival the heyday of drilling in Oklahoma, vocational education became concerned with training the manpower for this industry.

"Working on a rig floor is strenuous, and it is dangerous for the unwary, the unskilled, or the careless…However, the work skill necessary is not complicated at the entry level. Even with a planned course, a normal time required to teach the basics is but two weeks of eight-hour days. Red River and Central Oklahoma area schools started programs, and Caddo-Kiowa in 1981 hired an instructor and pushed its plans."

—Roy P. Stewart, *Programs for People*

Training for the Long Haul

"This program is unique in that it is the only truck driving program in the nation under the auspices of a public school system. The program began with the inception of Central Vo-Tech during school year 1969-70. The equipment consisted of a few items of surplus property, one instructor, and no formal training area.

"Initially the program was nine weeks. Through experience gained and by use of more modern equipment, the time was reduced to six weeks.

"Flexibility is achieved by using either school equipment on site or else by traveling to the employer's site to train his employees."

—Roy P. Stewart, *Programs for People*

Badge of Distinction

"Mid-America has the state's first training program in law enforcement and related careers available to high school seniors who seek entry into these professions. This was started in 1981 and 'was the first school to offer youths such training,' says Superintendent Kenneth Carleton…

"Law enforcement training is a two-year program for high school seniors. They, as with those out of school, are classed as adults after completion of the first year…

"Courses include a history of law enforcement, safety practices, first aid, personal fitness, public relations, and rescue operations, plus skills and experiences that include 11 different offerings ranging from state codes and the judicial process to marksmanship to drug identification, traffic control, accident investigation, search and seizure, and internship."

—Roy P. Stewart, *Programs for People*

Family Farm Management

"Farm management has become a popular adult course. Instructor Stan Bixler at Northwest AVTS at Alva, for example, began a program for families, and 14 couples attended. They were in the 24- to 50-year age bracket with farm holdings ranging from half a section (320 acres) to 1500 acres of mainly wheat land. As usual in that area, most if not all of them also had cow and calf operations. Several also bought stockers each autumn to run on their wheat pasturage. Of the initial starting group, four families agreed to put their records on a computer made available by the school at low cost. The others were keeping their records manually.

"Such innovation has historic overtones for family farm management. During the New Deal days…during the mid-1930s, Rexford Guy Tugwell headed the Farm Security Administration. The goal was to make small holders independent by aiding them in securing small acreages, normally 80 acres, with the minimum livestock required to furnish them with meat, milk, and poultry…Most FSA work was on a county basis. Supervisors were employed, some of them from the ranks of vocational agriculture instructors, whose principal job was to give advice to families and see that they kept records so that both government and participants would know where they stood."

—Roy P. Stewart, *Programs for People*

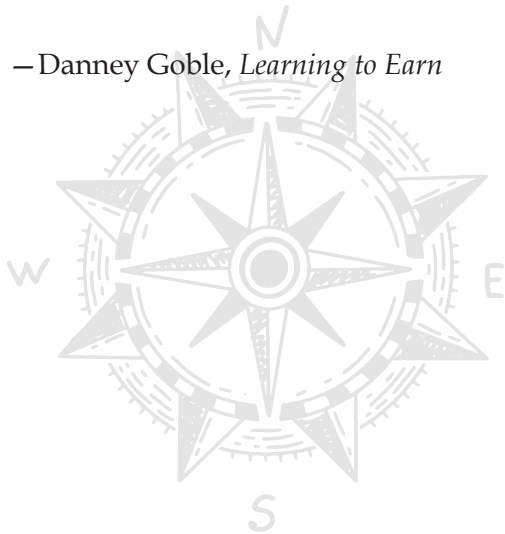
On the Road with Career Development

"Another example of innovation for Oklahoma vocational education was the creation in 1971 of a Division of Mobile Career Development for the southeastern region of the state where a need existed both in secondary and adult education areas…Basically, through the use of large truck-drawn trailer units, this form of assistance is brought to schools and communities on a rotating basis."

—Roy P. Stewart, *Programs for People*

"The pilot program grew into a standing service offered to similar areas. The grant's money spent and the pilot project concluded, the Oklahoma department immediately doubled the counties served in the southeast to fourteen and sent out four mobile units, each staffed with two career specialists. Two other units, each similarly staffed, patrolled Oklahoma County; a third operated out of Burns Flat, in the southwest."

—Danney Goble, *Learning to Earn*



Aeromechanics

"An aeromechanics program first started at Tulsa in 1966, the second year the Tulsa AVTS was operational. Steps immediately were taken to obtain Federal Aviation Administration (FAA) certification. The aeromechanics program operated as an approved program until 1969. The problem was a shortage of funds available. Prior to 1974 the area school was operated by the Tulsa Public Schools, and it was not possible to maintain FAA-approved courses because several instructional units were needed, plus other equipment. Another factor was that the school area was becoming more residential, and neighbors were complaining of the noise level caused by running up engines.

"In 1973 the state legislature created the Tulsa County Area Vocational-Technical District, Number Eighteen, and a board was elected the following year. The existing school was purchased from the district that year, operational funds became available, and in 1975 the district's voters passed a five-mill building fund levy for general expansion. One instructional area in need of expansion was the aeromechanics program. It was apparent that a new site was necessary, one located on or near an airport. A search disclosed a suitable location at International Airport, and it was leased during the autumn of 1978. However, the first-year phase of this two-year program was retained at the school's Memorial campus. In December of 1978 second-year students were moved to the airport location for classes.

"Steps again were taken to get FAA certification after the programs were relocated and resumed. This necessitated the purchase of the required instructional units, writing curriculum, and establishing procedures for approval. The

general curriculum was offered at the school campus on Memorial, and the power plant curriculum became a part of studies at the airport site. These dual phases were certified by the FAA in August of 1980."

—Roy P. Stewart, *Programs for People*

Different in One Way and in Every Way

"Years into Tuttle's retirement, an interviewer asked that he identify 'the most significant factor in the development of Oklahoma's quality vocational education programs.' It was a good question, perhaps the most important question that could have been asked. Responding to it, Tuttle…first reflected on what he had discovered when he first moved from academic to vocational work. The two were different, different in every respect.

"Vocational education served entirely different kinds of students, students who brought to their classrooms very different styles of learning. To teach them effectively, vocational educators had to teach them differently. They needed different strategies, different curricula, different materials. Vocational educators even needed different ways to evaluate their students and their programs.

"In time, though, Tuttle had realized that these were only the most immediate and most visible differences. The fundamental difference was that academic instruction could comfortably maintain the same course content year after year, usually for decades, frequently even longer.

"What inevitably made vocational education different in every way was that it was different in that one way. It had to change every time its subject changed—which is to say, every time technology changed. Moreover, it had to be flexible enough to change overnight—any night, every night."

—Danney Goble, *Learning to Earn*

A Circuit-Rider Approach to Training

"In 1970, in an attempt to aid cities and towns with a program to try evening-out ability of municipal employees, with frequent personnel changes, the state legislature came up with a different idea. 'The Commission for Training Municipal Clerks, Treasurers, and Finance Officers is an affiliated agency of the SDVTE [the state agency],' said Ernest Dirks, training director. 'Governmental effectiveness is significantly influenced by the quality of its personnel. Certainly that is not an earth-shaking statement, and yet it was understood by municipal officers in 1957 when they organized the Association of Municipal Clerks, Treasurers and Finance Officers of the State of Oklahoma. They saw the need of exchanging ideas and information, and developing a professional esprit de corps. The need for improvement was widespread. Many had attempted on their own to initiate innovations and systems in which they might operate more efficiently for the welfare of their own city or town.'

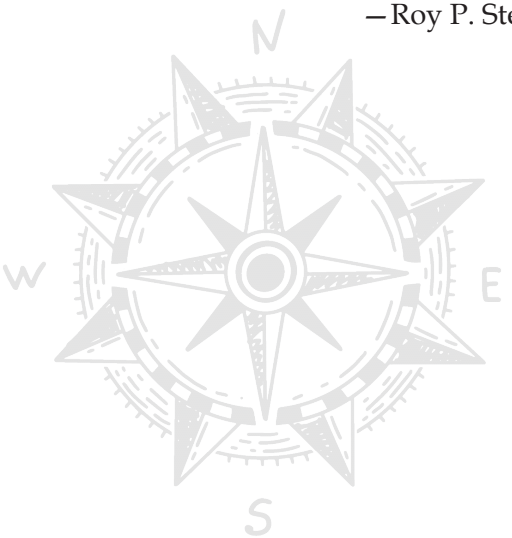
"'What knowledge office holders had [Dirks continued] about the legal duties and responsibilities set out by laws of the state or their local statutes was patch-work and make-do. With all this in mind, the association formulated an educational program for personnel improvements by holding annual training conferences and supporting specialized training programs. At each annual meeting of the Municipal Clerks and Treasurers Association, the topic of a bona fide training program was discussed. Ultimately, the association decided to take affirmative action by writing and enlisting legislative sponsorship of a bill that would give substance to their aims and goals by creating a training program and a certification policy.'

"'Finally, House Bill 1247 passed the legislature and was signed into law by Governor Dewey F. Bartlett on April 22, 1970, and the Commission for Training Municipal Clerks, Treasurers and Finance Officers was established and began operations.'

"…Initial training activities began in the 1971 fiscal year when a total of 99 trainees attended a total of 11 workshops. Ten years later the yearly level of activities center around 60 to 65 area workshops with 1,129 taking part. To develop effective training tools for municipal public servants, two handbooks were prepared.

"In addition to a circuit-rider approach to training municipal administrative officials, an intermediate school of continuing education was implemented in 1980 to provide vocational training on special subjects such as accounting, law and administration. Because of the uniqueness of the training commission, with its circuit-rider approach and low-cost delivery system…other states have inquired about the merits of the program."

—Roy P. Stewart, *Programs for People*



Building the Perfect Partnership

Beginning in 1973, the largest and most successful partnership for curriculum development was between the Curriculum and Instructional Materials Center (CIMC) and the Associated General Contractors of America (AGC). AGC paid for one curriculum specialist in CIMC to manage the development of all AGC curriculum, which was sold throughout the United States.

First Laborn J. "Bud" Hendrix and later Al Willey served as the AGC curriculum specialists in the CIMC.

—Craig Maile, CIMC staff (1986-2018)

A Leader in Regional Curriculum Coordination

"In addition to developing, producing, and disseminating instructional materials for Oklahoma's vocational programs, the CIMC [Curriculum and Instructional Materials Center] acts as the Midwest Curriculum Coordination Center (MCCC) when awarded a competitive contract from the U.S. Department of Education. In this capacity, the CIMC/MCCC provides leadership to nine states in the Midwest region of the National Network for Curriculum Coordination in Vocational and Technical Education (NNCCVTE): Oklahoma, Iowa, Texas, Louisiana, New Mexico, Nebraska, Kansas, Arkansas, and Missouri."

—Roy P. Stewart, *Programs for People*

"The National Network for Curriculum Coordination in Vocational and Technical Education (NNCCVTE) is made up of six regional Curriculum Coordination Centers and a network of State Liaison Representatives. The CCCs are funded by the Office of Vocational and Adult Education, U.S. Department of Education, and the SLRs' liaison activities are supported by NNCCVTE. SLRs serve as a link between the education community of a particular state and the regional CCCs and are often on the staff of the state department of vocational education's curriculum materials center. In addition to serving educators in their state, SLRs are often curriculum developers. The materials that they produce and distribute in their state might be accessible through the CCCs, consortia members, and the ERIC and VECM databases. They may also be available through one

of the consortia discussed here or the state learning resource center if separate from the curriculum development function. Often the two are closely related. The SLRs, one in each state and territory, provide educators with information about previewing or obtaining curriculum materials and can assist in the development of curriculum and instructional materials."

—*Locating Vocational Education Curricula*
(ERIC Digest No. 97), 1990

Byng is Different

"Byng, a small community only a large gulp of gasoline in distance from much larger Ada, has an enrollment far in excess of its visible inhabitants…. There are self-help building projects into which go not only craftsmanship but also the pleasure of accomplishment and pride in the school, as well as indoctrination into the best principles of the world of work…. Alongside occupational training, academic programs thrive.

"Marvin Stokes, a superintendent known to second-generation students and a state high school hall of famer for baseball coaching, has seen the school absorb state acclaim for its winning boys' and girls' basketball teams…In its rural setting, Byng school has 14 vocational programs. If some students are below a standard age level of juniors in high school or at times are a few short of class numbers required for reimbursement, the district picks up the slack."

—Roy P. Stewart, *Programs for People*

A Leader in Leadership Development

"One of the most interesting and innovative activities of the state department [the state agency] is a teacher extern program in leadership development. This program is conducted in cooperation with OU, OSU, and Central State University [now named UCO]. It began in the spring of 1975 with 29 teachers drawn from all vocational disciplines. Since that first year there have been almost 40 persons in each annual program.

"Primary credit for the course is due Dr. Arch Alexander, Deputy State Director, who initiated the idea and submitted a proposal to the U.S. Office of Education in 1974 for funding under the Education Professions Development Act. The first funding came the next year. Subsequent proposals resulted in funding with EPDA funds through 1978 when legislation that made such funds available expired. Fortunately, Dr. Francis Tuttle, State Director, was impressed with the success of the program and directed that funds be budgeted for its continuation.

"This extern program has been the outstanding in-service activity for vocational educators in Oklahoma. It consists of grouping selected vocational teachers in planning and carrying out a series of professional improvement experiences. This helps prepare individuals for increased leadership roles within local institutions and preparing them for advancement to area or state levels or for higher academic attainment.

"Seminars, workshops, and field trips are conducted during five Friday and Saturday sessions the first five months of the year. Training sessions orient teachers to new developments in vocational education, acquaints them with operations and policies at the state department

level, and provides them an opportunity to study administrative procedures and programs at local and state levels. Presentations by individuals of state and national reputation update the participants' knowledge of broad and varied policies and programs in their field. Participants usually enroll for three hours of academic credit at one of the cooperating universities, credit which can be applied toward advanced degrees.

"…The program continues to be heralded as one of the most outstanding leadership training programs in the history of vocational and technical education."

—Roy P. Stewart, *Programs for People*

No Other State Has Done As Much As Well for As Long

"In practice, many of the differences between what vocational-technical education had been and what career and technology education is have been both subtle and evolutionary. For example, School-to-Work—the systematic integration of occupational with academic instruction—is more alive than ever and more extensive, too. Nearly every college and nearly every technology center have entered multiple agreements with cooperating, not competing, institutions of the other form.

"In some ways, the integration of instruction has been even more complete, as well as more telling, in what is being taught than it has been in to whom it is being taught. Can, or even should, vocational learning be combined with academic study?... While the philosophers and the education professors have not been able to decide quite yet, Oklahoma's Career Clusters have been doing just that. The idea begins with grouping any number of occupations into general career areas—business management, sales and service, engineering and mathematics, for instances. Each cluster is then fitted with its own match of interrelated technical, academic, and workplace skills. The result is an invaluable planning device that can illuminate a student's entire educational pathway.

"It must be admitted that other states have been doing this, too, if, for no other reason, because contemporary federal law—the so-called Carl Perkins legislation in particular—actively encourages that they try. It can be argued, however, that no other state has done as much as well for as long as Oklahoma."

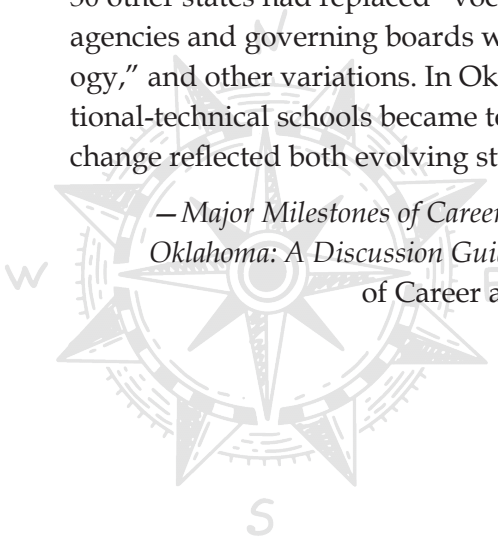
—Danney Goble, *Learning to Earn*

What's in a Name?

Roy Peters resigned as state director in 1999. During his tenure as director, total vocational enrollments more than doubled. Dr. Ann Benson succeeded Peters as state director, having joined the state staff as a curriculum specialist in 1973. Her tenure witnessed the renaming of the agency and its governing board, the awarding of a $2.2 million grant to manage a national career clusters initiative, and the creation of the CareerTech Learning Network, among other achievements. She was the first woman to hold the state director's job.

House Bill 2128 was signed into law on May 19, 2000. This law changed the name of the agency to the Oklahoma Department of Career and Technology Education and that of the state board to the State Board of Career and Technology Education. This change paralleled a national trend; the American Vocational Association had already become the Association for Career and Technical Education, and 30 other states had replaced "vocational" in the names of agencies and governing boards with "career," "technology," and other variations. In Oklahoma, the area vocational-technical schools became technology centers. This change reflected both evolving style and substance.

—*Major Milestones of Career & Technology Education in Oklahoma: A Discussion Guide,* Oklahoma Department of Career and Technology Education



Stories Told About Career and Technology Education in Oklahoma

TREASURE CHEST 4

"Worn Out" Gilbert and His $45 Suit

"One of those 'early bird' leaders as a successful teacher was Wager O. Gilbert…He professed to be an example of a person with correct initials, saying long before he stopped teaching that 'W.O.' stood for 'worn out.'

"J.B. Perky, then based at Woodward as supervisor for western Oklahoma's vocational agriculture programs… went to Stillwater in early May of 1929 to look over the crop of graduates. About 10 days later, Gilbert recalls, Perky sent word to Professor Don 'Pug' Orr in the Aggie education office to have three specified upcoming teacher graduates come to see him. They were Gilbert, Bill Brown, and Earl Williant…. The men were to meet Perky at Woodward, then go with him to Laverne for interviews, which was seeking a head for a new vo-ag department.

"'On a Friday afternoon we three rented a Model A Ford and headed northwest,' Gilbert remembered…We stayed at Laverne overnight at the Clover Hotel. Next morning it was raining straight down. Perky was driving his Pontiac and got it stuck axle deep…. I rolled down a window and saw a farmhouse about a quarter of a mile back. I had on a $45 suit, $6 oxfords, and was bareheaded. I just crawled out and headed for that farmhouse without saying any words. I was the one who had gotten the job.

"'The farmer was eating breakfast when I went in to ask if he could pull us out of the mudhole…. It was the first time in my life that I harnessed horses in a $45 suit. We hitched the team and went to the car. I tied a chain on the wagon and car axles, and out we came. Perky gave the

man $2. I was wet to the skin. From that day on until Perky died, I was a player on his team, but I had to produce to stay there.'"

—Roy P. Stewart, *Programs for People*

The Rusty Gate

"One of those recruited [by the Soil Conservation Service] was Clarence Kingery, then teaching at Noble where he had champion livestock judging teams in 1932. Kingery, as a vocational student at Garber…was a national livestock judging champion in 1925 and a member of the international winning team…'You sure have opened a rusty gate,' Kingery said when asked about those early days at SCS and the people involved. 'Offhand, I can list 30 or more voag teachers who defected to SCS in 1935. Some dates and places may be a bit off because this is from memory.'

"'Most of these people got their appointments from SCS around July 1, 1935,' Kingery recalls. 'A few…received WPA part-time training work before beginning in May that year. I recall well a conference with J.B. Perky, then state supervisor, at his office in Old Central that spring. The question was whether or not we were violating our vocational agriculture contracts…. We insisted that we could continue our school duties, since school was out, and also take Soil Erosion Service (later SCS) training part-time. Our WPA stipend was 30 cents an hour for actual duty time. Perky insisted that we could not do this. After a lengthy discussion, he looked over at John Underwood, who had both feet cocked up on a steam radiator. There were prominent holes in both John's socks. Perky noted this and closed the discussion by saying people that hard up needed the extra pay.'"

—Roy P. Stewart, *Programs for People*

How to Know if a Vocational Agriculture Teacher Was Doing a Good Job

"'J.B. Perky theorized [said Houston Adams, president of the Bank of Tulsa] that a vocational agriculture teacher was doing a good job if, at any time, he could be elected the mayor of his town, president of the local civic clubs, president of the Chamber of Commerce, and Sunday School superintendent. He was expected to be a leader on the school faculty, win most of the blue ribbons in the livestock shows, win a majority of the numerous judging contests, have the most Junior Master and American Farmers, and have a dynamic young and adult farmer program. It was goals such as these that made the tremendous success story of vocational education in Oklahoma.'"

—Roy P. Stewart, *Programs for People*

Greetings from the "Shark City Hotel"

"The most spectacular 'foreign' activity came in 1939 when Oklahoma's FFA organization was represented by a combination entry list at the Golden Gate Exposition on Treasure Island (a barge ride from San Francisco). Just getting there was unusual for that time. However, the results were almost amazing, and national publicity resulted. Oklahoma youths had five of the seven possible breed championships, two grand champions, and two reserve grands on singles or pens of three, gaining a total of 68 ribbons in classes from among 2,000 porkers with their 51 animals. Forty-six of the ribbons were above tenth place, and Oklahomans took 10 of the 20 possible first places….

"Hydro led the state's entries with 20 ribbons in classes, a reserve grand, and two breed champions. Temple was next with 10 monies, a reserve grand pen, and a breed champion. Garber had a grand champion pen in the show's FFA division, it then was grand champion of the whole show, along with earlier breed and pen of three championships, included in six places taken. Weatherford, Cordell, Verden, Erick, and Blackwell had four places each, while Konawa and Apache had one winner each (the Apache pig also was a breed champion)….

"Individually the various chapters and young showmen could not have afforded the expense of this trip. By making a team effort, they reduced expenses and included only the best showmen. The Oklahoma FFA Association put up the money for a railroad car which cost, as the then-executive secretary recalls, $354. The carrier provided was an automobile car, so the first three slats, or pieces of siding, were removed from each side to permit the circulation of

air. This was warm weather time, and the desert had to be crossed. Decks were built at each end of the car. One held a water tank, feed sacks, medicines, buckets, and everything else needed to care for the hogs (and it turned out that the hogs needed much 'nurse care' during the trip). The other deck held some straw pallets, a kerosene camp stove, a bit of foodstuff, and little else.

"…Hydro parents and others saw to it that their boys had some pocket money--$10 each and no more—to get to and to attend the world's fair. The Hydro Chamber of Commerce paid the automobile expenses. The National Commission Company and the Oklahoma National Stockyards Company jointly put up $75 for general expense money.

"The freight train to which the hog car was coupled was a priority run. Only fast fruit express trains had right of way over it. Passenger trains had to take a siding. While shunted temporarily at Flagstaff, Arizona, the hog attendants saw Felton and his passengers [W.R. "Bill" Felton, a state district supervisor, and four boys], whose trip coincided at that terminal by design. The Oklahomans and their car were put on a barge at San Francisco along with four other cars to cross the bay to Treasure Island. The exposition had not opened, but the idea was to get there ahead of time so the hogs could rest and recover from any train sickness from the swaying and bumping or from any smoke sickness from tunnels…. However, no eating places had been opened on the island when they arrived. 'We did not really have time to get far away from the hogs and too little money to spend on transportation off the island to the mainland,' [Charles Hogan, the Hydro instructor] says. Their railroad car was left on the island for the two weeks

they were there. The boys slept in it, putting up a sign outside that read 'Shark City Hotel.' They got publicity on that too."

—Roy P. Stewart, *Programs for People*

"I'm Raising Your 50 to 75"

"Another example of [Oklahoma Governor Dewey F.] Bartlett's enthusiasm for what vocational education could do came when Uniroyal was encouraged to construct and operate a tire manufacturing plant at Ardmore. The community voted to emplace necessary water and sewage facility lines; the Southern Oklahoma Area Vocational School would supervise training through the Special Schools division. Director Tuttle put a line item in his budget request that year for an extra $50,000 to train tire workers, that expense not having been anticipated or funded previously, and the budget was sent to the governor's office. Bartlett called Tuttle and said, 'I'm raising your 50 to 75 because you can do a more complete and better job with that.'"

—Roy P. Stewart, *Programs for People*

There is No "I" in Team

"Killian [Byrle Killian] also remembered a story involving J.B. Perky, then state vo-ag supervisor and Killian's superior. Letters mailed had to have Perky's approval. One which Killian composed to be sent to the people in the canning program came back to him from Perky's office with 10 circles inked around the word 'I'—with a note that said, 'A smart man must have written this letter,' Killian recalls, 'Thereafter even when I went to the bathroom, 'we' went, not 'I.'"

—Roy P. Stewart, *Programs for People*

Two Lessons for $1,500

"Tuttle was about to start his third year at Muskogee when [State] Superintendent Hodge called one day, saying that he wanted Tuttle for an even better job at an even better salary. The superintendent said that he and Jim Perky had been talking and both agreed: Francis Tuttle was the man they wanted for these new area schools—wanted him so much, Hodge went on, that they were ready to match Muskogee's salary and raise it 10 percent to $16,500, more than either Perky or he, himself, was making.

"Francis Tuttle resigned at Muskogee, took the job as head of area schools division, and began learning how Oklahoma went about the business of vocational education. His first lesson came within a month—just before payday, it was—when Perky called him in for some news. 'Tuttle,' Perky told him, 'your salary's going to be $15,000, not $16,500.'

"Then and there, Francis Tuttle learned two lessons. One was that Oliver Hodge may have been the one who approached him, and Oliver Hodge may have been the one who hired him, but Jim Perky was the one he worked for. The second lesson was that when a man worked for Jim Perky he really worked under Jim Perky, not with him."

—Danney Goble, *Learning to Earn*

"Yank the Program Out"

"Bill Hare…was a district supervisor for the veterans agricultural program in southeastern Oklahoma. He learned and proved conclusively for his own information and action, that a certain superintendent was using funds allocated to buy training aids for his veterans program for other purposes—not the least of which was paying himself a sum for 'supervision.' Bill told the superintendent that this was illegal, that he could not do that and retain the program, but the superintendent insisted he could do as he pleased. Bill then informed him that the program was discontinued as of that moment, knowing full well that this superintendent was a strongly entrenched supporter of the governor and other political figures.

"The superintendent responded that he immediately would call J.B. Perky at Stillwater. Bill gave him the number and waited a few moments, after which Bill was called to the telephone.

"'Are you sure of your facts about what is going on?' Perky asked.

"'I certainly am,' Hare replied.

"'Very well. I'm backing you up,' Perky told him. 'Yank the program out.'

"Hare later said that it was more pleasant to work for people who stood by him when he needed them than for those who wavered."

—Roy P. Stewart, *Programs for People*

The Power of Persistence

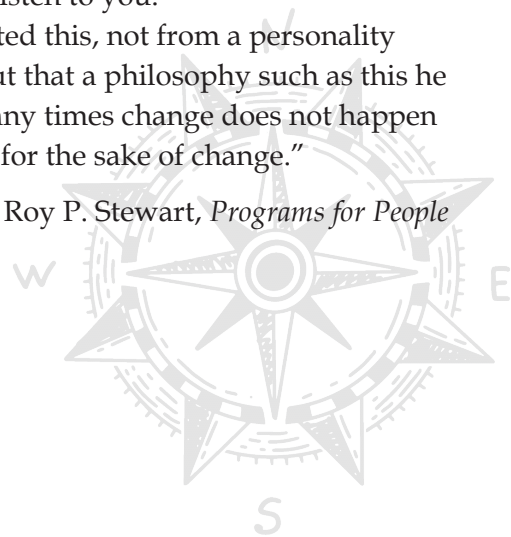
"Planning is a necessary and integral part of any vocational state program. As in so many things, this was something new at the time the concept was being slowly absorbed by educators—even by those who doled out the funds…

"Dr. Charles Hopkins…knows more about how planning became such an important part of Oklahoma's course charting. 'After I was employed,' he said, 'I had been on the job about six months when Francis Tuttle came into my office, looked me in the eye and asked, 'Chuck, do you get discouraged easily?' And I said 'Sir, I don't think that I do.'

"'Well, I know that I have given you the job of planner [Tuttle continued], and there are times when you are going to come to us, telling us what we need to do, and we're not going to listen to you.' Then he added, 'But if you feel that you are telling us the way we should go and you really believe in it, just keep coming back over and over, and maybe eventually we'll listen to you.'

"Hopkins said he related this, not from a personality viewpoint either way, but that a philosophy such as this he took to heart because many times change does not happen very fast—never merely for the sake of change."

—Roy P. Stewart, *Programs for People*



An Act of Faith

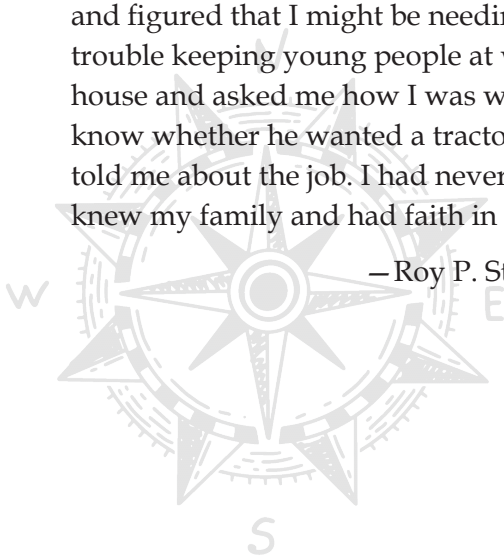
"The graphics department became essential. The Curriculum Division began its planning in 1969 and actual work in 1970. More than a one-hole punch and tiny collator was needed. The training manuals for both instructors and students were loose-leaf because, of all secondary-level instruction, vocational education has the most frequent changes to keep abreast.

….

"Mrs. Jeanette Sneed was that lone employee when SDVTE [the state agency] began doing its own printing, largely because it always seemed to have a sense of urgency that a commercial shop could not match…

"There is a story about how Mrs. Sneed got into the printing business in a small room in the original Vo-Tech building on West Sixth Street. As she tells it on a tape recording, it happened this way: 'J.B. Perky was state director in 1962. He had a ranch southwest of town near me and figured that I might be needing a job. He was having trouble keeping young people at work…He stopped at the house and asked me how I was with machinery. I didn't know whether he wanted a tractor fixed or what. He then told me about the job. I had never seen a print shop, but he knew my family and had faith in me. I said I'd try it."

—Roy P. Stewart, *Programs for People*



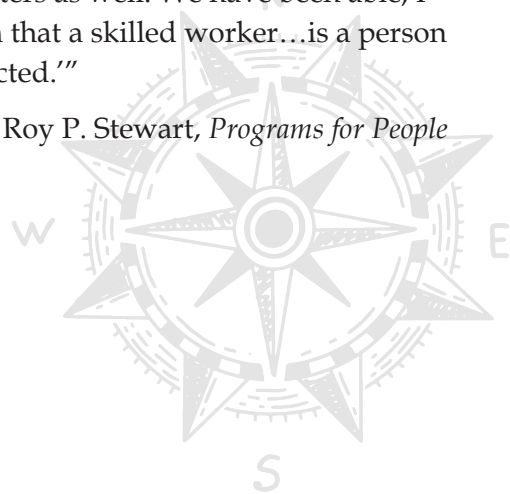
How Oklahoma Got a Head-Start

"Answering a request for his opinion on the 'how' and 'why' of Oklahoma's superior vocational-technical education, Marvin Stokes, long-time superintendent of the unusual Byng school system with its 15 vocational programs…said, 'Oklahoma got a head start in vocational-technical education, in my opinion, because J.B. Perky laid a groundwork early for vo-ag and home economics. As the state became more industrialized, Dr. Francis Tuttle saw the necessity for all types of vo-tech training and put together a good program that has kept pace with new technology and the ever-changing needs of the labor market.

"'Our state is blessed [continued Stokes] with its climate, and we are able to provide a physical environment for many kinds of outdoor training for our students on a virtual year-round basis….

"'Maybe it's because Oklahoma is a young state and much of the pioneer attitude still prevails, but I believe the work ethic is much more a part of general upbringing of our teachers and youngsters as well. We have been able, I believe, to instill the idea that a skilled worker…is a person to be admired and respected.'"

—Roy P. Stewart, *Programs for People*



New Ideas Prompt a New Vision for Vocational Education in Oklahoma

Dr. Francis Tuttle: Dewey Bartlett was elected governor. He was very much interested in economic development. And he had done enough study of what was going on in the United States, and he heard about South Carolina and went there and visited. And came back liking what he saw, because South Carolina was not the first state to build area tech schools, but it was the first state to use vocational education to primarily help economic development.

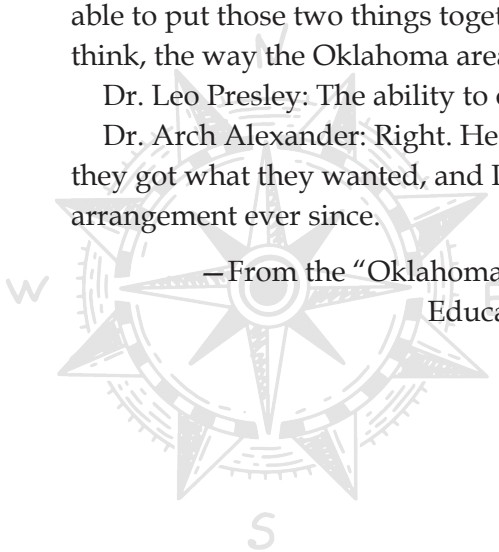
Dr. Francis Tuttle: After the study, Governor Bartlett decided that I was the guy that he wanted to do the leadership of building a kind of vocational training program.

Dr. Arch Alexander: I think Dr. Tuttle's being a little bit modest about the way the area schools came about. He had his vision of what they should be like and how they should be organized. And he also knew that the industry leaders in Oklahoma wanted special industry training, and he was able to put those two things together. That prompted, I think, the way the Oklahoma area tech schools took off.

Dr. Leo Presley: The ability to orchestrate...

Dr. Arch Alexander: Right. He got what he wanted, they got what they wanted, and I think it's been a good arrangement ever since.

—From the "Oklahoma Vocational and Technical Education Oral History" videos



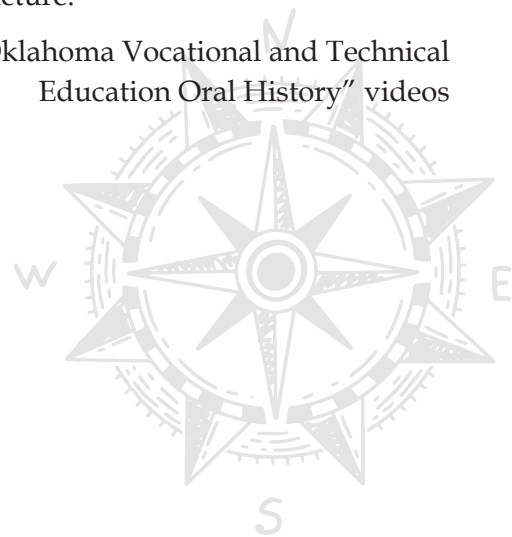
The Trip to South Carolina

Dr. Francis Tuttle: One of the important things was that the General who was commander at Tinker Air Force Base began to make a lot of noise about Oklahoma not training anybody. Since Tinker was a maintenance base and needed trained personnel, they just couldn't do a very good job or couldn't do the kind of job they were supposed to do because of that. He and the Governor made a deal to take a whole group of people from Oklahoma to South Carolina to visit.

Dr. Leo Presley: The infamous trip to South Carolina, and all the people who claimed to have been on that airplane.

Dr. Francis Tuttle: [Laughter.] Yeah. There weren't a lot of people in vocational education that made the trip–or education, for that matter. Most of the people that made the trip…represented financial industries, represented newspapers, radio stations, TV stations, that kind of people–kind of a power structure.

—From the "Oklahoma Vocational and Technical Education Oral History" videos



A Good Thing to Back Up

Dr. Leo Presley: Now I'm going to ask you yourself the question I've been asked over a number of occasions. In '65, '66, '67, those early days, did you at that time have, in your mind, a vision about someday the State of Oklahoma would have 29 area vo-tech school districts, and they would be as politically and economically powerful a player as they are on the Oklahoma horizon today?

Dr. Francis Tuttle: Well, not exactly that way. Partially that way. For example, we made a study in the state and divided the state up and thought we would build 17 area vo-tech schools. We could handle it by building 17 schools. Well, that doesn't work. One of the sponsors that helped us get the constitutional amendment across used his influence with the state board to come and get them to disallow those 17. He didn't want to be forced into a vo-tech district. He was in a little school…a superintendent of little school down by…between Idabel and Broken Bow, so he also was a chairman of the appropriations committee, a powerful legislator.

Dr. Francis Tuttle: We had to back up and whenever an area was interested, we had to set up what the minimum criteria for forming a vo-tech district would be. It was little enough, really. But the truth of the matter is it might have been a good thing for us, because it made the people feel like, "You know we can do this, and if we do it, we'll get ahead of this area of the state over here."

—From the "Oklahoma Vocational and Technical Education Oral History" videos

Learning from Other States

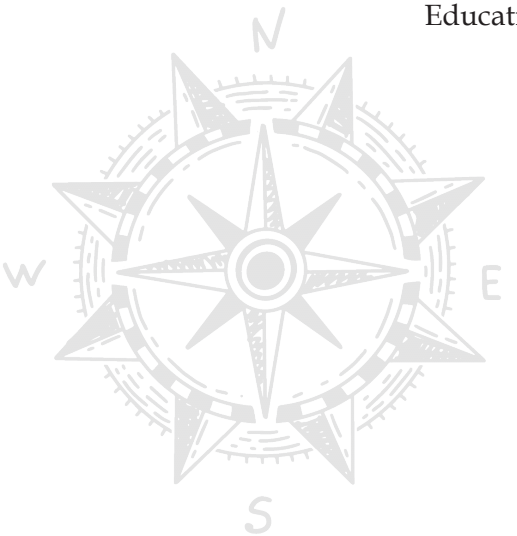
Dr. Francis Tuttle: We visited Bucks County in Pennsylvania, which was getting a lot of publicity and talk about it. It was organized primarily as ours was originally. It operated that way as primarily high school students filling it and adults in the evening. We also went to Wisconsin, where there were some very powerful technical institute-type schools and high-quality, good schools, so we got to visit those. We went to Georgia, where they had some very high-quality, excellent schools there. We went to North Carolina and looked at what they had. North Carolina made the mistake of allowing them to put them into any kind of building. Most of their facilities weren't too good. Later years, they probably replaced all that with new facilities, but to begin with it wasn't too good.

—From the "Oklahoma Vocational and Technical Education Oral History" videos

Difficulty in Adopting a Different Philosophy

Dr. Francis Tuttle: Everything that we tried to do supporting industry and adult education…. It was difficult to sell that philosophy even to the administrators of the vo-tech schools. For example, I was able to get enough money in the vo-tech school budget for each one of them to employ an industrial coordinator. You'd be surprised at how many of the schools–they took the money and they hired somebody, but they chained them to the desk. They didn't want them out in the community running around, talking to industry people. I had to go as far as even rescinding that position to some schools to get them to ever wake up and use the person right. There probably were some who never did use them right. Among educators, it was so difficult to get them to develop a different philosophy than what they had experienced in going to the public schools.

—From the "Oklahoma Vocational and Technical Education Oral History" videos



Vocational Education and the Challenge of Change

Dr. Francis Tuttle: One of the problems with higher education today is that they can't change as quickly as they need to change to get the information up-to-date and with the technology that has developed. They just can't do it. Vocational education has a better opportunity to do that than they do. We're not bound by having to offer a particular subject matter. We can change when the need for change appears. The only problem we have is getting and keeping the people who are willing to change. What we may do is stub our own toes by not keeping the flexibility that's been built into this system for change.

—From the "Oklahoma Vocational and Technical Education Oral History" videos

Francis Tuttle and the Road Ahead

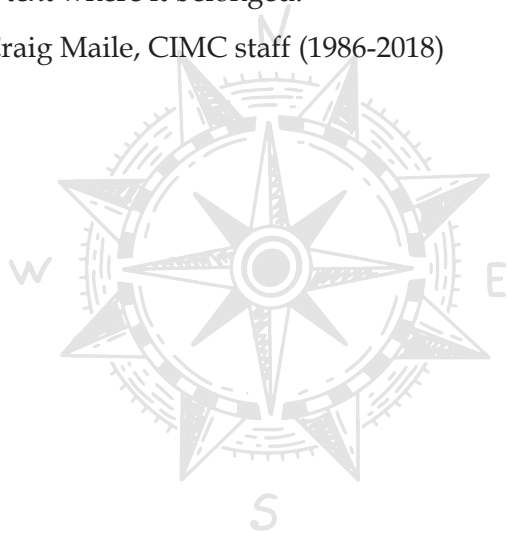
Dr. Francis Tuttle: It's been a career I feel most fortunate to have had to see a time when we started with practically nothing. The only vocational schools we had when we started here was the residential vocational school in Okmulgee and two technical institutes—post-secondary technical institutes—one here on the campus [of OSU] and one in Oklahoma City. That was it. All the rest of vocational education has grown from that time. So, you know, it's really been a pleasure to see the growth and see the success that that growth has brought to the State of Oklahoma. I personally believe that there's still room for more growth and, while I think we've got to watch what we're doing and we have to be very careful about how we spend our money, but I think that there's still room for growth and to get to all the things that I can see that need to happen. I don't want to see us take on a lot of things that the public schools ought to take care of themselves because once we start that, then, boy, you'll just drown with all that they'll want you to do because they want you to be lean and mean while they have the opportunity to spend all they want to spend. So, I just caution that we need to watch that a little bit.

—From the "Oklahoma Vocational and Technical Education Oral History" videos

The Craft of Curriculum Development

In the days before the Internet, all of the research and committee communications had to be done by phone, by letter, and by using the library. The curriculum development process was a craft. It was a very hands-on process. Writers worked under the supervision of a curriculum specialist, who oversaw the completion of a specific title. Professional editors reviewed the writers' work, carefully marking the pages in red ink. Artwork was pasted onto the individual pages using a wax coating that had to be added to the back of each piece of art, and artwork labels were individually added by hand. Rulers, X-Acto knives, bottles of white-out and blue china markers were tools of the trade every day. You had to melt a bar of wax on a special machine that had a roller. Once the wax was melted, you could scroll one sheet of paper at a time through the roller, to coat the back of the sheet with wax. You then cut out the piece of artwork using a knife and pressed the waxed artwork onto the page of text where it belonged.

—Craig Maile, CIMC staff (1986-2018)



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