A springboard for data processing education in Oklahoma

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Certainly the problems expressed in the preceding presentations have not been foreign to Oklahoma. Oklahoma has realized the vast need for a marriage between education and industry, particularly in the area of data processing where no traditional curriculum patterns exist and where there are no established career paths for data processing instructors to follow. Oklahoma had an additional need, however, the cooperation between the various State agencies in using a "system approach" to improve education, and more specifically data processing education. The existing bureaucratic machinery allowed a certain degree of amalgamation, but the gap had not been totally closed. This paper will seek to outline the framework of the cooperation between the State agencies, to discuss the state-wide teleprocessing system, to comment on the more usual types of involvements in data processing education, and close by discussing what Oklahoma is using as a springboard for accomplishing projects and meeting expressed needs.

As to the existing operating framework, one could view this as a triangle with many various lines of cooperation between the three points denoting the three separate entities: the State Department of Education, the State Board of Regents of Higher Education, and the State Department of Vocational and Technical Education. One example of joint cooperation is the shared ownership and operations of the centrally located CPU. The State Department of Education and the State Department of Vocational and Technical Education participate in this venture which is the hub of our state-wide teleprocessing educational system. Schools electing to subscribe to the system range from secondary institutions to the four-year colleges, thus the supervision of programs comes through different State agencies. With the distribution of responsibility of program supervision, there was need for additional cooperative effort.

Such a need was met by funding a position to coordinate vocational education at the higher education level, and an individual was selected by and is office with the State Board of Regents for Higher Education. As a State, as needs have arisen, attempts have been made to reach solutions. Each of these State agencies have certain and varied responsibilities and limitations when it comes to data processing education, but basically there is a framework within which progress is taking place.

The state-wide teleprocessing system previously mentioned has been in existence since 1966. It has been featured in various articles, the most recent in the January, 1971, issue of the American Vocational Journal. Administratively speaking the system has undergone the various growing pains of an EDP shop—hardware changes, turnover of personnel, numerous operating system modifications, and lastly a location change to a specifically designed area for the entire data center staff in a new State capital office building. Although both the State Department of Education and the State Department of Vocational and Technical Education have quite extensive administrative applications for which they use the UNIVAC 70/35, educational program use has always received top scheduling priority. Another recent improvement in the system was the conversion of TDOS to a DOS operating system. Several enhancements were incorporated that were not previously available to students. Now a student can receive a complete core-dump at a satellite center, can accomplish either tape or disk sorts, and set up the JCL for his specific job, as well as other features.

The state-wide teleprocessing system is not the only hardware available to institutions for data processing education. There are schools throughout the State on all levels that have their own computer systems. Some of these are Norman High School with a System/3; Tulsa Junior College with a 360/50; Oklahoma State University with a 360/65 (the largest central computing facility of any educational institution in Oklahoma); Oscar Rose Junior College with an IBM 1130; and Central State University with a 360/40 and two PDP 11/45s.

With all these various systems available, wouldn't it be reasonable to expect much activity? Certainly! In looking across the State, one will see scientifically-oriented programs, business-oriented programs, and an established data processing teacher education program. But is the activity well organized, and is Oklahoma really meeting the specific needs of industry for well-trained and updating of those instructors already out in the teaching profession. How does one obtain that additional training and expertise of the rapidly changing profession when he spends most of his time in the classroom or preparing a lecture to enter that classroom? Is there perhaps another avenue not yet
discovered that could assist the three State agencies in working together in the midst of the intricate network of responsibilities?

Before addressing oneself to these and other specific concerns and discussing the springboard that Oklahoma is using, please allow a brief rundown of some of the usual aspects of data processing education. On both secondary and collegiate levels, the student organizations are a part of making that final employable product. FBLA (Future Business Leaders of America) and PBL (Phi Beta Lambda) provide a very meaningful and rewarding experience to students who desire to “get involved”. The state winner in the FBLA data processing contest also won first place at the National Leadership Conference in Washington, D.C. last June. This young man was a high school senior and was enrolled in the data processing program at the Oklahoma City Area Vocational-Technical Center. Today he is employed in a local EDP shop and advancing very rapidly. When it comes to youth organizations and activities, Oklahoma has enjoyed an excellent romance with industry. Many businessmen serve as contest judges and ask to return for future events. Others may participate in Job Fairs, in which students are interviewed, some companies offer jobs, thus some students leave the State Leadership Conferences not only with contest awards, but also a job. Some companies desire to participate in other ways, such as presenting contest winners with savings bond certificates.

Another unusual aspect of data processing education in Oklahoma is that State level personnel are called upon to wear many different hats. Certainly this is true of the Data Center coordinator, the Data Processing Teacher Educator, and the Consultant for Secondary Programs. These three individuals speak to many civic and industrial groups, to high school classes of all kinds, and even prepare special seminar classes on various aspects of data processing for many different groups. These special seminars may be for top-level management, for a group of secretarial instructors, or for a special training session at Tinker Air Force Base near Oklahoma City. In addition, these persons work closely together in providing input concerning data processing education for the state-wide VIEW (Vital Information for Education and Work) system developed and disseminated by the State Department of Vocational and Technical Education. It would not be uncommon to find one of these persons substitute teaching (without pay) for an instructor who desires to attend a special seminar out-of-state. This instructor will in turn share the special seminar content with others via the springboard. This type of seminar, as well as one-week seminars are carefully planned and successfully implemented by these three individuals. The most recent of the week-long seminars was conducted in August, 1973. Authors and publishers from California and New York were guest lecturers. These persons, assisted by Oklahoma instructors, conducted the seminar, and presentations ranged from Techniques of Teaching Basic Data Processing Concepts to those on Techniques of Teaching Concepts of Multiprogramming, and Techniques of Teaching Concepts of Teleprocessing. These seminars alone, of course, cannot meet the total need of assisting those currently teaching data processing in keeping abreast of the state of the art and of industrial needs.

Returning now to concerns previously mentioned, other concerns have now been added to the list. What about a state-wide advisory committee from industry, and what about reducing program costs? Is there some method for obtaining some standardization of the educational product, the student, at the various levels of education? Wouldn’t it be a change for education to say to industry, or more specifically for a student to enter the job market proclaiming to be an entry-level COBOL programmer and for industry to be informed specifically what criteria this student has met because of this student’s participation in a competency-level testing program supported by the various institutions? Dreams? Perhaps. However, as long as it is said, “It can’t be done!” it won’t be done. There just may come a point in time when powers that be agree that there is a possibility for accomplishment; if so, then there is hope for progress.

This positive “system approach” has prevailed in the minds of many State level persons and in the minds of business data processing teachers in the State, and because of this and other reasons, a group of individuals are taking a stand. Statistics reveal that over 80 percent of the jobs available in the data processing arena are in the business-oriented environment. Also, there are existing vehicles to serve computer scientists and further their educational aspirations and endeavors. The National Science Foundation has funded proposals to assist the advancement of data processing in this area, and yet what about the business data processing programs and instructors? Oklahoma looked to other states and even to national organizations for some answers and assistance and found that generally the problem is the same. Business data processing education needed a boost. After much thought and careful consideration five individuals decided to create a springboard for Oklahoma. Objectives were expressed to be: (1) the continual advancement of the professional development of the business data processing instructors at all levels of education, (2) the continual improvement of business data processing programs at all levels of education, and (3) the continual promotion of business data processing. The finished product is called the Society for the Advancement of Business Data Processing Education. Does it meet the needs and objectives? Absolutely.

This product, still in its embryonic stage, is allowing the instructors from all levels of education to meet and work together, and enthusiasm and momentum continue to increase as many special projects are planned and completed. For the first time in the history of Oklahoma, a two-day seminar, specifically for business data processing instructors, was planned and well attended at the annual State teachers’ meeting. This organization has voiced its support and desired involvement in developing competency-level tests for various areas of business data processing education.
Another special committee is in the process of designing an information system that will hopefully produce just about any answer one might want concerning the status of business data processing education in the State of Oklahoma. Teachers are sharing; they are involved; they want quality education program, and in all three areas value greatly the input and assistance from industry. The constitution of this newly formed group calls for state-level advisory committees, and Oklahoma is choosing such persons from industry.

Another involvement of organization members is that of writing proposals to secure special funding for a project to establish career paths for business data processing teachers, and to conduct a future two-week seminar. The group is considering supporting an attempt to establish some national curriculum standards for business data processing education at the various levels. With the close working relationship between all levels of education and the use of the springboard, these and other projects will become reality.

"Quality!" Yes, that coupled with the attitude that nothing is impossible, unless one believes it is impossible, is the cry that rises from this industrious group. They desire the involvement of industry; they want to know how they can best train workers to meet the employment demands. With the English flair of Professor Higgins, who often remarked similarly about his Dear Eliza, one may find this group of Okies cocking their heads aside, smiling, and declaring, "By George, we think we've got it!"