

1. More than 30,000 students will be enrolled in technical agriculture programs annually in the U.S. in the 1970's.
2. At least 30% of these students will change their educational and/or career plans.
3. A smaller percentage (10-15%) will desire to transfer to a professional program in agriculture.
4. Qualified technical graduates who desire to enter a four-year program should be allowed to do so under conditions fair to both the student and the institution.
5. The majority of the 30,000-plus technical students will be located in two-year institutions. This means that the students must make an inter-institutional transfer to enter a professional program.
6. All courses in a technical program should be terminal in nature. All are designed to prepare technicians for rather specific employment rather than for transfer. This applies to 'basic' as well as technical courses.
7. Both two-and four-year programs are in existence to serve the needs of both students and society.

Proposed Guidelines

1. Acceptance of a two-year student in a professional curriculum must be based upon a reasonable chance of success. *The successful completion of a technical program alone is not a good predictor. Until experience is gained by working with transfer students, an admissions counselor should rely on much the same information that would be used to evaluate a new college applicant. In addition, the technical transcript should be examined carefully to determine the performance in relation to the level and type of courses completed.*
2. Technical program coordinators should be realistic in their recommendations on transfer applications. *The coordinators are more apt to make recommendations on the basis of the student's performance in his or her major subject matter area. Four-year degree students rarely face academic problems as a result of their performance in their major areas of study; it is the 'basics' which plague them!*
3. To change from a technical program to a professional program must result in a loss of both time and credits. *The goals and objectives of technical education are centered around preparing students for a job or cluster of jobs. The goals and objectives of a professional program are completely different. I know of no way to compromise the two sets of goals. To design or attempt to alter a technical program*

to serve both a transfer and a terminal student will fail on both counts.

4. Technical students transferring to a degree program should receive four-year credit for their courses in a technical program. *How much credit and in which specific areas will depend upon a number of factors:*
 - a. *Is the subject matter area of the technical and degree programs similar?*
 - b. *Are the credits to be given outright or only after some type of proficiency examination?*
 - c. *Are the transfer credits to be assigned as specific four-year course credits or as electives?*
5. Wider use of proficiency testing seems to be a logical way to assess the level of competency in a given subject matter area.
6. It seems logical that technical transfer credits could be used more extensively to meet 'elective' requirements in a degree program.
7. Technical credits should be equated to degree credits in a uniform manner. *At Michigan State University, a maximum of one-half of a transfer student's technical credits may apply to a four-year degree. This may not be the logical percentage. However, in my opinion, it is easier to defend 50% than 0% or 100%.*

The above guidelines are broad, general statements on the various aspects of articulation between technical and professional programs. The author recommends that a NACTA committee be appointed to study this problem and submit a set of guidelines to the next convention for approval.

Selected References

1. Hodson, J. D., Manpower Magazine, June 1972, p. 15.
 2. American Association of Junior Colleges, "Post Secondary Programs in Agriculture and Natural Resources," Washington, D.C., 1971.
 3. National Association of State Colleges and Landgrant Universities, Annual Report, 1972.
 4. Dr. Duane Anderson, "Comparative Description of First Year Agricultural Technology Students and Freshmen Degree Students," a Ph.D. Dissertation, Graduate School, Michigan State University, 1965.
 5. Brown, Dr. Norman and Dr. Harold Ecker — An unpublished study of transfer students, Michigan State University, 1971.
- ¹ Paper presented at the NACTA Conference, Cobleskill, New York, June 14, 1973 by Dr. Harold J. Ecker, Director of the Institute of Agricultural Technology at Michigan State University.

TECHNICAL EDUCATION — A COORDINATE EFFORT*

Leonard Feddema, Cornell University

Whether we think of students in two-year or four-year curricula, the curriculum objectives appear the same. We outline a scheme that will somehow change the entering freshmen sufficiently that after two or four years they will possess saleable skills that heretofore did not exist or have now been polished to reveal the gem-like qualities.

With the diversity of professional opinions available to confuse the issue and the number of institutions available that promote innovative approaches, it is immediately apparent that there must be more than one way to get the job done. Through the entire educational process, regardless of the procedures employed, some common elements must be present.

The students should have the common bond of interest and desire to be effective individuals through the acquisition of marketable skills. Hopefully, they are receptive to the notion that as educational professionals we know best, and thus should be amenable to following our guidelines. Admissions officers are supposed to have that insight which will allow detection of hidden qualities essential to success, elements not revealed on the high school transcript. In truth, most of us are readily swayed by good grades and a statement of

support by a guidance counselor. Thus, our entering students are as diverse a population as possible within the limits established for academic acceptability, with a common bond: the desire to receive training that will eventually qualify them for employment.

The difference in students in the two and four-year colleges lies in the speed at which the student is able to attain skills and the level at which the skill will be utilized. In two-year programs, course work immediately applicable must be introduced to maintain student interest and lay the foundation for subsequent specialized course work. There is little time to be lost searching for alternatives. The requirements for social sciences and humanities as established by the State Board of Regents must be included, and in designing the two-year program we find that the end result is a locked in, structured curriculum. On the other hand, the four-year college enjoys an additional time factor which permits flexibility in the curriculum, time to ponder alternatives and options, and still include technical instruction. Thus, the senior institutions enjoy the freedom to delay access to technical instruction and substitute courses of a general nature, which, so students are informed, are

"broadening," pre-requisites, or our college graduation requirements. The effect of the latter procedure is to produce irritation for the goal oriented student and continued uneasiness for the individual who is really not sure that he is on the right road. It is assumed that time and exposure will produce commitment, but recent developments and events lead us to believe, that the uncommitted student in a professional college is being subjected to undue emotional strain. As a consequence, we have suddenly seen a large number of leaves and withdrawals as an expression of uncertainty now that draft laws permit time off for soul searching. Perhaps this attitude had been building up over the past ten years but was suppressed by thoughts of the military draft.

To change directions in the two-year college is costly for the students in terms of additional time required to complete requirements of a new curriculum. A more logical procedure is to earn the associate degree in the required time period and then transfer to a senior college for the new specialization, hoping for a smooth integration and no additional penalty, in terms of time. In fact, most transfers hope to achieve or attain something that they now feel was omitted in the previous two years.

I am also realistic enough to realize that parental or social influences are factors stimulating transfer in some cases, and maybe more overpowering than the student's own desire and interest.

Two-year college transfers are sure that the senior college is going to be different, just how, they are not sure. To prepare for the transition, our admissions staff visits the technical two-year colleges and conducts interviews and conferences with potential candidates. In addition, departmental chairmen in these colleges are very knowledgeable and well informed and serve frequently as counselors. Thus, the potential transfer learns in advance of any potential penalty that may result and those courses which may be required as pre-requisites or necessary for the baccalaureate degree.

The problem of convincing the goal oriented student of the need for additional course work in physical sciences, biological sciences and social sciences, and thus postponement of the desired courses, is not easy. The expectation is to immediately plunge into those courses of interest being offered at junior level. In actuality, the course schedule may be comprised of freshmen-sophomore courses. Having recognized this fact, we now recommend or even require that these courses, primarily the biology and chemistry pre-requisites, be completed in a summer session prior to matriculation. The resulting change in student attitude was obvious and allowed for smooth entry. Thus, Phase I of pre-orientation is begun in the parent institution. Phase II of Orientation is the physical presence of the candidate on campus to meet

his academic advisor. Together they discuss the educational goal sought and the method to be employed in reaching that goal. It is at this point that shifts in vocational objectives can be best performed and the schedule of courses developed that will insure preparation for the new objective.

Phase III of the transition is the assurance that members of our office operate with an open door policy willing to provide assistance on any problems that may arise. This could be money problems, parental, advisor, course work, and the thousand and one things that can inhibit the student from doing his best work.

Evidence indicates that the first semester following transfer is the most difficult adjustment period. Grades and confidence are in a slump, however, recovery does occur and it is with pleasure that I can report that the transfer at graduation has a cumulative average within a few hundredths of a point of the native. Knowing this, we find it essential that all of us work with the student during that first term. We can exploit his high level of motivation to acquire new skills for his technical field. The two year departmental chairman is aware of this motivation and becomes our key advisor via his recommendation. Should we err and not be prompt in our acceptance or should we fail to approve the candidate's admission request, the chairman will frequently alert us of our oversight. As you know, the personal contact with the individual and particularly in an academic situation, is the best basis for judgment. We like this relationship since it means that two institutions are interested

in the welfare of the same individual and his success.

The end result is a group of well trained individuals anxious for employment in fields related to their technical skills. The beginning of the collegiate experience differs, but, if we have been successful, we have a blend of abilities and skills within the student body allowing diversity in graduates. Some faculty concern is voiced by those who seek a uniform graduate, all having travelled a narrow, well marked path to the B.S. Others are impressed by the diversity of the backgrounds, experience, interests and preparation to exit from the campus and qualify, because of these characteristics, for newly emerging technical occupations.

Currently we are witnessing a regeneration of interest in technical education. Collegiate programs that permit postponement of a commitment to acquire skills are becoming less popular. In my interviews with young people, I now hear voiced thoughts about making a contribution by being able "to do something." More and more young people have established goals for themselves and are anxious to begin a program that will lead quickly to that destination. For us who offer technical programs, there is no shortage of candidates or declines in enrollment, and as long as I am in admissions, may it ever be so.

*Paper presented at the NACTA Conference, Cobleskill, New York, June 14, 1973 by Dr. Leonard W. Feddema, Director of Admissions, College of Agriculture and Life Sciences, Cornell University, Ithaca, New York.

THE STORY OF AN IOTA* WORKSHOP

James Ahlrichs, Purdue University

How can our teaching be improved? To know this we must define our roles as teachers and we must enumerate that which a top teacher does under each role. Then we must have someone objectively probe our teaching by observation and by interview. Finally, both the teacher and the observer must independently rank the teacher's level of activity under each criterion of effective teaching. Thus, we end with a true view of what we are currently doing and we have a standard to which it is compared. This is a solid starting point for improvement.

A NACTA-IOTA Workshop was held June 9-12, at Cobleskill, N.Y. and immediately preceded the 1973 NACTA Conference. The IOTA Workshop prepared 33 of us to do the above. Four intense days included study and modifications of the definition of the activities a top teacher does under each of the seven roles we occupy as a teacher.

1. Director of Learning

2. Counselor and Advisor
3. Mediator of the Culture
4. Link with the Public
5. Member of the Faculty
6. Member of the Teaching Profession, and
7. Member of an Academic Discipline

We learned how to observe teaching and to interview teachers OBJECTIVELY. We learned how to use our data to select the most correct statement from a series of statements verbalizing the level of a teacher's practices under each of 28 criteria of good teaching activities, (13 observational and 15 from interview data). We ended the workshop prepared to either observe or to be observed and to grow from either experience.

Basic to the IOTA system are two important items:

1. You neither observe nor are observed unless you have worked through at least one intensive workshop of this type.
2. The observation is a self evaluation tool for teacher improvement purposes and is not designed for teacher rating.

The schema is dependent on mutual

trust and objectivity which would be hard to maintain if used as a "rating" mechanism. The IOTA approach is designed to protect each person's ego and to avoid injuring his pride while at the same time letting him see where he stands as a teacher compared, not to a colleague, but to a standard.

Twenty-three of the participants were from Agriculture colleges and were stimulated to attend by NACTA sponsorship of the workshop. About $\frac{3}{4}$ of them were classroom teachers and the rest were administrators. Also $\frac{3}{4}$ were from four year and $\frac{1}{4}$ from 2 year colleges. Over half of the Agriculture group were NACTA members.

In an evaluation questionnaire completed by the participants the most commonly selected responses to five questions were:

1. The IOTA as a method of teaching improvement "represents one quite plausible approach and should be tried by a number of our major two and four year colleges of Agriculture."
2. NACTA with its interest centered in col-