The B.S. degree will gradually merge with the M.S. degree with a resulting five-year program which may well contain a pre-professional program.

week, but merely to point out he is doing it no differently than he did ten years ago. I sense a developing pressure to increase the number of common offerings across the engineering college in an effort to better control class sizes. This may in time lead to major organizational changes in engineering where departmental lines become subordinated to disciplinary affiliations.

Simultaneously, however, educators must re-examine the process itself. Can we increase our our productivity? Can we better motivate our students? Student frustrations seem to increase not only with society and Vietnam, but also with their academic experience. Professors expect more out of them in less time (128 versus 142 hours) than was true earlier. The increasing affluence of the last decade has caused many to factor salary and job security into their future plans less than was true of depression-raised students. Thus the demands of engineering seem to be too high a price to pay for many who see society's real needs as falling outside of the physical sciences and engineering.

Consideration of these factors suggests several likely changes in the years ahead. The number of engineering technology programs, both two and four year will increase, particularly in community colleges. The B.S. degree will gradually merge with the M.S. degree with a resulting five-year program which may well contain a two-year pre-professional program (which could be obtained in a community college). Fewer students will choose to pursue the Ph.D. as we currently know it, though some of these may choose to continue study beyond the first degree, but without the traditional thesis. Such a program would permit a project with greater breadth than the Ph.D. thesis, but quite relevent to societal and industrial needs. Continuing education programs will be developed by industry and universities, with likely competition from enterprising and innovative individuals who will quickly move into the area if universities fail to respond.

The advantage of a cooperative education program should not be overlooked. Many institutions are currently using such programs in cooperation with industry around the country to their mutual satisfaction. It not only provides the student with an opportunity to apply classroom material to engineering practice, but equally important today, it provides him an opportunity to earn while he learns. Certain institutions by virtue of their geographical locations are ideally oriented to move into cooperative education and should certainly explore the advantages that such programming provides.

It is essential that we not overlook innovative methods of instruction. Programmed learning where appropriate should be used; other audio and visual techniques should be investigated including the use of television, both live and tape, in an attempt to educate not only on campuses but also in corporations and homes across the country. Tapes and films as well as texts should comprise a portion of the faculty's scholarly effort in the future.

Certainly society, as well as the chemical engineer of tomorrow, faces not only the challenges cited above, but also others which remain undefined and in some cases beyond our comprehension at this point. Several predictions can be made with virtual certainty, (1) change will continue at an accelerating rate in the decade ahead, (2) criteria must be developed other than profit which will guide industry and the government in their future decisions and (3) as we experience continued population growth and consumption of our natural resources, technology, its application and direction, will become increasingly concerned with survival, not just convenience or return on investment. □

ChE news

ONE DAY SCHOOL FOR CHEMICAL ENGINEERS

A sub-committee of the Education Projects Committee of AIChE has organized a "One Day School" for chemical engineering faculty from colleges within the Metropolitan New York and Mid-Atlantic areas. This school will be sponsored by the FMC Corporation at their Princeton, New Jersey Research and Development Center. March 24, 1972 is the date and the theme of the program will be **Coal and Its Conversion to Higher-Value Energy Products.** FMC personnel will present papers on coal as a natural resource, fuidized-bed pyrolysis of coal, hydrogenation of coal-derived oil, and the Cogas venture. A tour of the FMC coal pyrolysis and hydrogenation plant is part of the program.

This program has been planned for the Projects Committee by R. E. White of Villanova, R. T. Eddinger of FMC, and C. W. Clump of Lehigh.