
Local Level Program for Recruiting Chemists

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The prevailing shortages of scientific and technical manpower have been widely publicized. Publicity will continue for the next several years. The problem has been given national importance through the recent report of

the Office of Defense Mobilization (3) in conjunction with three other governmental agencies which have been coping with the problem. Professional societies have been studying the matter with considerable concern. Employers have become exercised as a result of their last two annual recruiting programs.

With a problem defined, solutions are being proposed. It is quite likely that action campaigns in local communities will bring employers and their professional employees to the junior and senior high schools this winter. Chief impetus behind these approaches will be the desire to disseminate vocational information about careers in chemistry and chemical engineering and to interest more students in choosing either of these fields. The mechanism of procedure in this campaign is best exemplified by the Student Guidance Program of the Manufacturing Chemists' Association. (2,5)

MCA is a trade association operating at the management and executive levels. It maintains normal liaison with the professional groups, such as the A.C.S. or A.I.Ch.E., and with other trade associations. However, the thinking of the personnel reached through MCA channels is management-type first, professional-type second. This characteristic influences the form of the program and its variations in execution as different members attempt to apply it locally.

Features of the MCA program as outlined to its members emphasize these points:

1. This is a public relations job and must therefore be staffed by men adept in contact work.
2. Approaches must be made through channels, established at top level first, and then developed at working level,
3. This is a long range program, not a one-shot affair, thereby necessitating sound planning, and continuing contact,
4. The teacher is a professional worker in his own rights and should be so regarded throughout,
5. Planning should be done on a community-wide basis, if more than one chemical plant is located therein, and planning of action projects should include early consultation with the teachers.

By and large, the program as outlined to its members, is sound although susceptible to mismanagement on several points. However, before discussing these danger points, as they affect establishment of industry-school relationships, the program may be evaluated in these terms:

1. The program is advisory to members of MCA. Roughly that means application in communities where sizeable chemical industry already exists. It will not reach many communities.
2. The program is essentially a sales campaign of careers. Recent history of engineering groups in coping with an analogous problem showed it possible to step up college enrollments with intensive sales efforts. However, some factors operated with the engineers that are absent with the chemists, necessitating a somewhat stronger effort to obtain comparable results. Success is not assured automatically but is attainable with effort.
3. The program depends for implementation upon local people. It will be applied with as wide a spread in action as the spectra of human personality and interests allow.
4. The program in any locality depends upon cooperation, a fact that the MCA stresses. Where professional groups exist, they should be included.

Since we are a group of teachers, we might examine these efforts in terms of problems that execution of the MCA type program may raise. Well-intentioned as the program is, it carries elements that can impede co-operation unless worked out in good faith.

1. A sales campaign applied too enthusiastically can oversell the career. The people approaching the schools are apt to be naive about the total counselling problem, although quite likely willing to learn. The contact men from industry are apt to be products of subject-matter education with very little understanding of the educational process. They are, however, very likely to be more sensitive to human factors than are the professional scientists who may appear in the later stages. Teachers, therefore, should expect to watch continuously for departures from common understanding. The contact personnel are apt to be very persuasive, though not too difficult to reason with. They are apt to assume the correctness and finality of their goal, namely encouragement of more young people to enroll in chemistry or chemical engineering majors, without quite knowing what all is involved in the choice of a career. Imperfect as guidance testing tools in this area, their use might well be discussed as an aid in non-directive counselling.
2. All data used to emphasize these shortages are extrapolated from present day estimates under assumed conditions of continued economic activity and international disturbances. The ODM reports projection into the future from five to seven years. However, in increasing the reservoir of professionally trained personnel for the higher levels, there is no assurance that present estimates will prove accurate at those dates. Supply-demand data for engineers are just beginning to be extensive enough to be useful but the data on chemists are still too sketchy for any sound estimating (4). Considering the fact that careers in these fields require four to eight years of preparation, the investment of a life means that the prospective chemist should see what is ahead. Jobs are not guaranteed but the opportunities for careers still exist in good or bad economic conditions, if the youngster understands the importance of self-propulsion.
3. The contact men from industry are not apt to know, but can be readily informed, of the interlocking problem of recruitment for other fields. They are not apt to realize until informed, that they are competing for talent with other professional fields such as teaching, engineering, medicine and law in an upper stratum of the socio-economic spectrum that is already pre-disposed to college education. They may need to learn what it takes to interest youngsters from less favored families, if the total talent pool is to be increased. The MCA points out the fact that scholarship assistance offers will help to encourage prospects from this group.
4. As products of specialist types of college education, the contact men are also apt to know little about the trends in elementary and secondary science teaching. They may need briefing upon the trend towards the 12 year program of science and away from the specialized sciences, like chemistry. Insofar as the contact men can be enlightened, they are apt to become quite appreciative of the objectives of science teaching and helpful citizens. The MCA program stresses the importance of employee participation in community affairs.

If the teachers are called upon to render an additional service, what then may they expect in return? Aside from benefits accruing from bettered public relations of the schools system and a segment of the community, these factors are possible:

1. Readier access to resource material in the locality. This includes informed specialists who can answer many subject-matter questions. It also includes sample boards, process diagrams, specimen raw materials, and field trips.
2. Opportunity to show need for supplementary support for science projects and equipment. This is, of course, subject to the usual interplay of group needs and budgetary settlements. But sums of money, or their equivalent in gifts, that are out of reach in the school budget frequently are of the order of magnitude considered very reasonable in an industrial public relations budget.
3. Better insight into the vocational opportunities open to young men and women who complete professional training in chemistry or engineering. In this area, most science teachers have too little knowledge of alternatives. ACS has lately developed more suitable literature (1), that is readily available and very helpful. But its distribution into the high school level is very spotty. One little known fact is that while the training is based on laboratory work, and while many professional chemists work mainly in the laboratory, there are several non-laboratory types of careers open. Insight into this kind of information can develop in the community level program.

To some extent, this program of recruitment of chemists adds another burden to an already heavily loaded secondary school teacher. If the program is a one-sided demand on the teacher, the teacher loses. But if mutual understanding can be reached, science teachers can benefit well in proportion to the aid asked of them. Improved relations can result between the local schools and local industry. Improved relations with reciprocating esteem can be developed between individual professionals from different fields, namely science and science teaching. There seems to be a strong need for strengthening of understanding and respect between these groups. The process moves faster from a good start at the local level. To this point, we have not indicated how relations between teachers in the high school and college and college levels can be affected; we will close with a discussion of this aspect.

The feud between subject-matterists (including chemists) and educationists is a needless affair. In some respects, it simulates the Panmunjon truce talks. Each side is suspicious of the good faith of the other. Yet the time is far past when there needs to be a meeting of minds and a reconciliation of viewpoints.

The proposal of the MCA program to staff local action projects with contact men is sound in one respect. It discourages the sending of the scientific specialist in to develop the foundation of cooperation. In so doing, it removes at the start the components of an extension of old prejudices. The later introduction of specialists allows for the project to gather strength before ideologies have a chance to clash. But postponement does not prevent occurrence.

The contact people also have relations with the colleges. If they become convinced that changes in attitude at the college level are essential to the welfare of their program, they are not apt to refrain from making their findings known. They will also not refrain from using channels of communication that can not be ignored.

While this entire process will have low speed, it can be a very valuable influence on education. If the collegians can be made to face up to the consequences of their standpattist philosophy and to recognize the reality of the educational process, then relations between secondary and college teachers can be markedly improved. Using a middle man as peacemaker

may seem a devious route but it is strongly urged in the interest of all of us seeking to come to grips with problems of common concern.

There is one more associated problem that we should have liked to discuss. We are adding it as a postscript in the hope that it will receive the attention it deserves. In the community level program of recruitment, attention is focussed on recruits for scientific work. Equally important, though not so obvious, is the need for recruiting more science teachers. It should be possible to seed some crystals in the thinking of the industrial people of this need—more teachers of science at all levels and better trained teachers.

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