

~~THE~~ FORWARD LOOK IN ADULT EDUCATION IN AGRICULTURE*

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The assignment of discussing adult education in agriculture before this group stimulates pride and trepidation simultaneously. This is carrying coals to Newcastle with a vengeance. Nevertheless, it is my purpose to sketch out the general morphology of adult education in agriculture leaving the details of taxonomy, physiology, and histology to later participants in the program. In so doing, I shall draw liberally on the research and experience of my colleagues both within and without the field of agricultural education.

Population Trends and Ratios

Since 1910, except during the depression years, there has been a steady reduction in the farm population of the United States. It has gone from over 31 million in 1910 to less than 20 million in 1960. This is not news to anyone here. But the wide variation in reaction to each census release adds confusion to complexity. Identical facts are used by different individuals to support diametrically opposing conclusions. To some the decrease in farm population is an ill omen presaging the doom of agricultural education. To others it is a triumph of progress of which vocational agriculture can be justly proud. In this welter of mixed conclusions I am reminded of the two mountain boys from Tennessee when they received their greetings from the President during World War II

And not only country boys occasionally draw zany conclusions. The tale is told of the psychologist experimenting with animal life and attempting to train cockroaches

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In a more serious vein it should be noted that only in highly developed countries with relatively high standards of living do we find less than 20 per cent of the people on farms. Nor is this trend toward a relatively smaller proportion of people on farms new. Cities have historically depended on rural areas for their population.

One apparently paradoxical phenomenon can be noted in the history of population movement in the United States and elsewhere. It might be supposed that when times are good and agriculture is enjoying a high level of prosperity people would be loath to leave the farm. Conversely, when agriculture is in the doldrums one might be forgiven for assuming that the rate of leaving would accelerate. Such is not the case. The times of greatest farm prosperity mark the peaks of migration to urban centers; when depression strikes, the flow of population slows down and in severe cases, the usual trend is reversed. Maybe it is possible to starve to death more slowly on farms than in cities.

One might properly raise the question of how far this movement off the farms can go. What are the limits of reduction in farm population? Estimates of the Bureau of Census suggest a population of 200 millions in the United States by 1970. Certainly it seems reasonable to assume that at least eight per cent of the population in 1970 will live and work on farms. Put in another way, the number of people on farms may have reached stability even though the percentage of the total population on farms may continue to decrease. The point here is that there are now, and perhaps will be, 15 to 20 millions of people on farms and it is reasonable to expect that this number will continue to need more and surely better agricultural education in the future. This gives us one dimension of the magnitude of our responsibility in the future.

Technological Developments

No consideration of the future of adult education in agriculture can ignore the impact of technology. In some respects it is our life story. Certainly

mechanization, electrification, and education tell the tale of the American farmer in bold strokes. The modern farm business revolves about a series of management problems dealing with adjustment to changes in price ratios, volume and rates of production, labor efficiency, combination of enterprises, and cost control with special reference to machinery, equipment, and capital.

A few familiar illustrations are introduced here to indicate the influence of technology on agriculture and, therefore, on agricultural education.

1. The average investment per farm worker is about \$20,000. In industry the comparable figure is some \$4,000 less.
2. The investment by farmers in machinery is twice that of the entire steel industry and five times that of the automobile industry.
3. Farmers are the largest single group of consumers of petroleum products.
4. Crop yields have doubled in 30 years. One farmer produces enough for himself and 20 others--maybe more if we could distribute what we produce.
5. Each year farmers use more electricity, more trucks, more purchased inputs of all kinds, and more research than the year before.

One of the fruits of technology is the almost incredible rate at which changes are taking place in agriculture. This acceleration in the rate of change is frequently referred to in the literature as the technological explosion. Our concern is with the educational explosion that is both a result and a cause. We must exert every effort to translate the significance of these changes into the particular area of adult education in agriculture.

Speed can be taken as a simple illustration of technological progress. From the dawn of creation up to the early 19th Century, man's rate of travel was limited to the speed with which the animals he had domesticated could carry him. In 1829, in England, a man-made steam locomotive won a race against a horse. Significant as this was, the period of ultra-rapid progress did not dawn until the early years of the current century. Not until the early 1900's did an automobile exceed a speed of 100 miles per hour. As late as 1944 a flying speed

of 500 miles per hour was such a fantastic achievement that it was kept secret for several months.

It was at this point in time that the dramatic change began. Within twelve years speeds in excess of 1,000 miles per hour have been attained by manned aircraft. It appears certain that, within a short space of time, scientists will have solved the problems of travel in rockets at astronomical speeds. Similar progress has been achieved in other areas, as you well know.

The year 1945 (remember the Bomb) marked the beginning of a new era and the termination of the world in which we were born, reared, and educated--a world that has literally ceased to exist. The degree to which we, as educators, can adjust to the new conditions is the measure of our effectiveness and our contribution.

So much has been said about technology and technological development that we have become benumbed and overwhelmed to the point of apathy. Yet from this factor are derived implications of the most serious consequence for agricultural education. This has particular reference to the qualitative aspects of adult education. The degree to which we keep pace and truly identify instruction for farm people with issues and problems of the highest significance to farmers will determine the worth of adult education in agriculture through the public schools.

Occupational Opportunities

A concomitant of decreased manpower requirements on farms has been the dramatic emergence of new occupations closely integrated and interdependent with agriculture. In truth, the entire meaning and concept of agriculture has advanced to a new stage in its metamorphosis. Where "farming" and "agriculture" were once synonymous they now assume a different relationship to each other. Today it is sometimes difficult to isolate clearly specific areas of agriculture (or any other field) from other areas of business, commerce, industry, and technology. The technological revolution of our century precipitated a merging

of space and time, of field and factory, of laboratory and husbandry, of experimental investigation and practical application, and of mass media of communication and farm marketing schedules. Indeed, it is by no means easy to tell who is the farmer and who is something else. A personal anecdote will illustrate the point.

A couple summers ago I visited my farm. The tenant was seated in the house watching a baseball game on television. Between innings he excused himself to make a telephone call to the nearby town. The purpose of the call was to place an order with our fertilizer dealer to come to the farm and apply 150 pounds per acre of liquid nitrogen to field number eight. Now the question is, who was the farmer? Or were we all farmers? I owned the farm and provided the over-all management. The tenant was responsible for the day-to-day operations. The fertilizer dealer was responsible for a farming process--fertilizing the field with a grade of fertilizer selected as a result of soil tests and the crop history. But there is a more important question. What kind or kinds of adult education can best meet the requirements of modern agriculture? Can we restrict the program to 1917 concepts of farming and/or agriculture? Are we able and willing to change?

The multitude of new businesses and occupations that have evolved are ripe with opportunity. Consider the fact that for every farmer today there are from six to eight distributors, technicians, processors, suppliers, and servicemen. We in agricultural education can direct and shape the education needed. If we fail to do so other influences will, and agriculture will not then be as well served as farm people have a right to expect of our public schools.

Basic to the development of occupational opportunity in agribusiness is the scope and quality of the farming business. Even as the number of opportunities to enter farming decline, the entrance requirements and the quality of opportunity incline upwards. This has application in adult education as management of a high

order becomes the hallmark of success in farming. There are fewer farmers; they are better farmers. They need and want more and better education.

Reorganization of School Districts

Because educational opportunity in agriculture is best provided through our public schools, it is not only prudent, but necessary, to take cognizance of developments in school district reorganization. This is not as dramatic as the technological explosion, but is probably equally important in delineating adult education in agriculture for the years ahead. The school district, as the unit of self-government closest to the people, describes the arena in which we do battle.

There are presently about 42,000 school districts in the United States. Continuous programs of realignment of resources and subsequent adjustments in district boundaries are in progress. Dr. Howard Dawson, director of the Division of Rural Service of the NEA, suggests that perhaps about 10,000 school districts in the entire nation may be the outcome. Whatever the figure, we must be alert to adjust our program in terms of the emerging problems and opportunities that accrue.

Two or three factors can be readily identified. There is the constant danger of failure to recognize our total clientele. When discussing potential enrollment it is the rule rather than the exception to identify only high school students. I doubt if five per cent of the agriculture teachers in the United States know how many farms or farmers are included in the patronage area of their schools. High school enrollment is the criterion by which we all too often judge the scope or the potential of a program. Thus the fact that there may be two, three, or five hundred adult farmers in a school patronage area is subject, in many cases, to a 100 per cent discount. Now, this is a sad way to run a railroad! And the danger of submerging the importance of adult education in agriculture becomes more prevalent as school districts become larger with subsequent growth in high school enrollment.

The almost docile manner in which responsible leaders in agricultural education have accepted one-teacher departments as standard is nothing short of appalling. Single-teacher departments might be justified if they are patterned after the one operated in the early 1900's by the late A. M. Field when he taught in Northfield, Minnesota. His program included one elective high school class and a dozen Farmers Clubs for the adult farm people of the area. His work there in the early 1900's earned him the sobriquet of "Alfalfa Field." He taught real vocational agriculture. In general, however, the one-teacher department is as outmoded as the one-teacher school, the model T, and the dodo bird.

A third factor associated with school district reorganization is the function of the area vocational technical school. Such a school serving anywhere from four to fourteen counties should be adequately staffed to function as an intermediate unit in agricultural education. It should serve as a regional center for farm business analysis, provide specialist help in subject areas such as farm management and marketing, crops and soils, the animal sciences, and mechanized agriculture. It should assist local departments by providing teaching materials and professional aids. A major contribution should be in adult education. There appears to be no other unit in our total society that can provide the needed adult education in agriculture as efficiently, economically, and thoroughly. Here indeed is hope for the future, not as replacements for local departments, but as indispensable supplemental units.

Teacher Education and Supervision

There can be no minimizing the influence of teacher educators and their colleagues in supervision on the development (or lack thereof) of adult education in agriculture. Perhaps here is the most significant clue of all to the future of adult education for farmers. Certainly, the present meager development of adult education can be laid at this door. But who among us is to cast the first stone? Indeed, such a course would be neither fruitful nor conducive to a more

vigorous assumption of leadership responsibility. Suffice it to say that those who choose to avoid or evade a major commitment to adult education as a major function of vocational agriculture perform a disservice to farm people.

Leadership at the state level is certainly essential to agricultural education at all levels, but for adult education it is of supreme importance. At the level of undergraduate preparation, attitudes, values, and concepts are formed that become permanent. Student teaching experience embracing observation and practice in adult education to a degree at least equal to high school and FFA work must be assumed. Research in adult education is due for marked emphasis if progress is to be assured. Courses at both the undergraduate and in-service and graduate level will carry a major role in shaping the adult program of the future.

In the same vein supervision, with its prestige and status at the local level, can be identified as a moving force in structuring the future of adult education. A supervisory visit which fails to involve the adult program must be subject to critical review. All of this implies a harmony of philosophy and objectives and a real spirit of cooperative effort among supervisors and teacher educators. Here is another dimension of the task ahead.

Relationship with Other Agencies

An observer of the educational scene watching the program of adult education unfold might well recall a story told of Robert Louis Stevenson. Legend has it that when he was a small boy in Edinburgh he sat in the window of his upstairs room of an evening watching the lamplighter making his rounds. His mother called to him several times, but received no response, so fascinated was he with the lamplighter. Finally she raised her voice sufficiently to get through to young Robert and inquired why it was taking him so long to come to supper. His response was, "I'm watching a man punch holes in the dark."

Thus it is with adult education in agriculture through the public schools. Step by step, albeit all too slowly, we have been "punching holes in the dark". That our progress has been slow we must admit, but perhaps we should bear in mind a statement made by Dr. Finis Engleman, Executive Secretary of AASA, to the effect that you don't help matters much by shooting a horse out from under a man if it's his only means of transportation. The point is to move from the horse to the jet age.

In doing this recognition must be given to the other agencies with which we must relate and communicate. At the local level there are several agencies, public and private, governmental and quasi-governmental, eleemosynary and profit-making, all trying to "help" the farmer. The F.H.A., S.C.S., Agricultural Extension Service, N.F.I.A., the rural bookmobile, the Watkin's man, and the Chevrolet dealer illustrate the range. It is a function of an agriculture department in the public school to coordinate all educational resources for maximum benefit of the rural community. In fact it is well-nigh impossible to conduct an appropriate adult program without achieving at least a degree of coordination. The Farm and Home Development Program of the U.S.D.A., for example, richly endowed with government dollar support and publicity, must be integrated and coordinated with the vocational agriculture adult program or both will be impaired. It is certain as the night follows the day that the extension service is not structured to operate a management oriented adult program to the same degree as the local school.

There is similar opportunity and need for close cooperation and integration with F.H.A. which can more adequately fulfill its obligation to its clients through the adult farm management program of vocational agriculture. But before any of this can become a reality there must be an adult program in vocational agriculture geared to meeting the management needs of farmers and based on actual facts as revealed by farm records and accounts.

At the state and national levels the problem of relationships with other agencies must likewise be dealt with. Here questions are raised of "vested interest", claims to "prior rights", and "our" program versus "your" program as though farm people were mere pawns in a political gambit. Let us now, always, and forever take the position that whatever best serves farm people has our support. Our philosophy must be a professional one. Our interest must be to serve the educational needs of farm people through the most effective utilization of available resources at all levels. Let us not prejudice the future of adult education in agriculture by entering into "memorandums of agreement" where educational responsibility and opportunity are sliced up after the manner of industrial cartels. A bold new effort in adult education is due. And nothing is as powerful as an idea when the time is ripe for its birth.

Tradition, Habits, and Inertia

Men, even those in agricultural education, are creatures of habit. We are subject to the universal law of inertia. Tradition endows certain practices and attitudes with the hallowed sanctity of longevity. Things are accepted as right and proper for no other reason than that they have been around for a long time. To be sure, these three closely allied forces of tradition, habit, and inertia exercise the beneficial function of insuring gradual, rather than radical, social change. On the other side of the equation are resistance to new ideas, blind spots in thought and attitude, and the drag of status quo. Thus in vocational education in agriculture the concept of adult education as a minor adjunct of the total program has become a habit--a bad habit. Teachers, supervisors, and teacher trainers alike have all too commonly thought of adult work as an extra chore. It is done in the same way as "pumping water for the hogs while you rest at noon".

It may be appropriate for us now to scrape the moss from our concepts of adult education and take a good sharp look. Periodic evaluation is good for the soul and, more pertinent here, it is necessary if agricultural education is to avoid consignment to limbo. If we worship at the shrine of the sacred cow of

tradition, it is time we got a new "religion".

The fundamental difficulty in breaking with tradition is like that of the gentleman who was going to swear off intoxicants. He walked down the street, first on the opposite side from those evil swinging doors. He wanted to test himself. He said to himself, "Bill Doakes, I'll bet you can walk along here and never look across the street." He was right. He walked along the block and never glanced across the street. Then he said, "Now look, Bill Doakes, I'll bet a man of your will power can go over on the other side and walk right by those doors and not look in". Putting himself to the test he was successful. He never turned his head. Then he said to himself, "I'm proud of you, Bill Doakes, I'll bet you can turn around and go back and every time you come to the swinging doors you can turn your head and sniff." Again he tested himself and succeeded. And when he had come through the fire of temptation unscathed, he congratulated himself heartily. "Bill Doakes," he said warmly, "you have done wonders. I'm proud of you. I'm so proud of you that if you'll come in here I'll buy you a drink".

The Needs of Farmers

It is axiomatic to say that adult education in agriculture should be based on the needs of farmers. We have always said this and, to a degree, have held to it. Farm people need the same basic education as any other group of folks in America. But they need more than that and it is here that agricultural education finds its prime function.

If we assume that farmers are in business to make a profit we can at once begin to identify specific areas of need and assign educational priorities. What are the factors influencing profits from farming? Six of the major factors are universally recognized. They are price relationships, size of business, rates of production of crops and animals, labor efficiency, combination of enterprises, and capital efficiency. An understanding of, and the ability to manage these factors

are essential if a farmer is to increase his efficiency and raise his level of living. Thus from the needs of farmers we derive the prime objective of adult education in agriculture.

When a farmer reaches the point of decision he must apply the findings of research, outlook information and price trends, new developments in mechanization, and all other pertinent information to his individual farming business. Averages, the neighbor's experience, general principles, all must be adjusted and adapted to a situation that is different from any other situation just as a farmer is different from any other farm operator. And unless we have equipped him for this most important decision making process we have not brought the learning-teaching process to its culmination. Without adequate detailed information about his own business a farmer must make the crucial management decisions "by guess and by gosh". He is flying by the seat of his pants.

What are the returns per hour of labor from the various enterprises? How about returns over feed cost from livestock? What did it cost to produce a hundred pounds of pork? or milk? or unit of feed? or to operate the tractors and other machinery? Which enterprise yielded the highest net return? What was the change in net worth? These are the kinds of questions a farmer must answer in planning and operating a farm business. And the answers must come from carefully kept records and accounts. This is the heart of adult education for farmers that pumps profit-making knowledge into the system. There is no other way to get the facts.

In spite of the obvious necessity for basing adult programs on factual farm records, the past shows little recognition of it. The best estimates available indicate that only from three to five per cent of the farm operators in the United States keep and use adequate farm records. Thus it may be reasoned that adult education for farmers has a wide field, 95% of the potential clientele, to serve.

How is it possible to expect the Great White Father in Washington or even the saving grace of parity to do much toward solving the "farm problem" until farmers themselves know more about their own businesses? This is a challenge for agricultural education. A new look, a fresh approach, renewed faith in farming, a willingness to try, and above all, an awareness of the really significant problems of farmers will illuminate the path ahead. Adult education in the future will, of necessity, identify with these issues.

Philosophy, Purpose, and Practice

In summary three things seem certain if adult education in agriculture is to assume its rightful place. First, there must be a common philosophy shared by all who labor in the vineyard. Such a philosophy will embrace adult education as the core of vocational agriculture and will likewise point unmistakably toward the management approach based on records and accounts as being at once a vehicle for identifying as well as solving problems. Careful and complete farm records are the means by which adult education becomes individualized and meaningful to "my farm" and "my problems".

Secondly, there must be a recognition of a common purpose, a principal objective of adult education. However it may be expressed, this purpose must in essence direct the teaching toward increasing the efficiency of the individual farming operation and raising the level of living.

Finally, it must be recognized that there will be diversity in the practices employed in working toward an identical objective. This is desirable, even necessary, if experimentation is to lead to more effective means of accomplishing a purpose. Intensity of enterprise analysis, kinds of lesson plans and teaching units, techniques of interpretation of farm business analyses to farmers, involvement in income tax assistance, procedures in farm business reorganization are illustrative of areas in which diversity of method will be instructive to all.

In any event, at all costs, and under whatever circumstances the task is

begun, one thing is certain: adult education must grow if we are to shape,
rather than submit, to the future.