THEME: Programs for Exceptional Students
The term "exceptional" is used to describe students whose educational needs are very different from those of the majority of students. They are individuals who are so different from "regular" students that special educational practices do not serve them adequately. "Exceptional" includes the gifted as well as the educationally handicapped. The deviations of the students are such that special teaching competence or unusual school services are required.

The Permitted Answer is "Yes"

In vocational agriculture/agribusiness, exceptional students are mandated as individuals who are physically or mentally impaired, disadvantaged, and gifted. It is permitted to serve the needs of these students in the same classes along with "regular" students. This is a big question! It is a question which has been answered "yes" by individuals who are not "regular" students and not teachers of classes comprised exclusively of "regular" students. In fact, educators today are almost forbidden to even consider an answer other than "yes" to this question.

There are several excellent articles in this issue of the Magazine which discuss exceptional students and programs. These articles stress that there are laws and regulations requiring the placement of exceptional students in regular classes. Research is needed to determine if such placement maximizes learning of both the "exceptional" and "regular" students. Research is needed to access the effects of such practices on student behavior and performance. All those individuals who make laws and regulations are not the individuals most directly affected by them. They are not the parents and students in the classrooms of our Nation's public schools.

All individuals need to be able to productively participate in the mainstream of society. "Mainstreaming" in the classrooms of our schools appears to be a viable procedure for preparing individuals to function in the mainstream of society. Further, all individuals should develop a better understanding of how people with various characteristics can contribute to a quality way of life.

Vocational agriculture/agribusiness has traditionally served students with various abilities and backgrounds. It has provided youngsters who apparently had little opportunity to succeed with experiences that helped develop skills needed for success. And it has done so without the benefit of Federal laws and regulations which apply to "non-regular" students. What will be the effect of these laws and regulations on vocational agriculture/agribusiness?

Daryl Hobbs Said A Lot!

At the National Seminar on Agricultural Education in July, 1980, Daryl Hobbs, a University of Missouri sociologist, discussed the directions in society. He mentioned several trends, one of which was that in the 1980's the middle class would increasingly withdraw support from public education. Dr. Hobbs gave few details about how this would specifically affect vo-ag.

Public education in the United States has largely been supported by members of the middle class. The upper class has traditionally sent its children to private schools. The lower class has sent its children to public schools, if they went at all. But it has been the middle class which has provided the support, leadership, and substance for quality public education. Why did Dr. Hobbs state the trend? What will happen if the middle class does respond accordingly?

Why?

The "why" is partially entangled in the entanglement of laws, rules, and regulations which frame the public schools. To comply with all of them is expensive, time consuming, and contributes little to education. It may well be that the actual learning that takes place will be less. (Scores on standardized achievement tests have not shown that we have improved on actual learning in most instances.) Today's educators in the local schools are having to spend their time and energy on reports, testing, and other "compliance matters." This takes away from the effectiveness of the classroom experience.
their real purpose — to educate. And this waste does not go unnoticed by the middle class.

Basically, public education in the United States is financed at the local level with funds from taxes on property. Federal dollars contribute very little to education at the local level relative to the benefits gained. In practice, Federal rules and regulations have often caused the expenditure of more funds than previously used. This has resulted in taxes being increased on property which is largely owned by the middle class. The question asked is: "Why does less education cost more?" Thus, the middle class is seeking relief from externally imposed regulations, higher taxes, and poorer efficiency in educational achievement.

The Effect

If there is a decline in support of public education by the middle class, vo-ag will definitely feel it. The major farmers, ranchers, and agribusiness persons in a community are in the middle class. Once their children are placed in private schools, they would attempt to reduce support for public education. Their children would no longer be enrolled in vo-ag. They would likely no longer be enrolled in adult/young adult programs because of loyalty to a private school. They would no longer be willing to serve as training stations for occupational experience and cooperate in other ways with the vo-ag program.

Quality programs of vo-ag require the support of the middle class. It is the individuals in the middle class who control a community’s resources and give it the needed direction and leadership.

Is It True?

Daryl Hobbs, the trend may be true. I hope it isn’t. I believe in strong public education. On the other hand, I believe that the middle class (or any group) has the right to react and provide the best for itself at the least cost. We need strong programs of vo-ag in our public schools. We need to inform those who make laws, rules, and regulations of this trend and the effect it will have on public education.

By FRANK BOBRTT, THEME EDITOR

Editor’s Note: Dr. Bobrtt is a Professor of Agribusiness and Natural Resource Education at Michigan State University.

Teaching students who have handicaps or disadvantages and who are interested in learning skills taught in vocational agriculture is welcomed by good vocational agriculture teachers. These students are not considered students who are "dumb" but rather students with special challenges and problems.

Counselor education should be given to guiding students who are interested in agriculture into vocational agriculture. The use of interest inventories by school guidance personnel should be encouraged as one means of discovering interest. Teachers also must accept the responsibility for arousing and maintaining interest of all students.

Some vocational agriculture teachers are more successful than others as teachers of students who may be disadvantaged or handicapped. During a recent survey of vocational agriculture teachers in Michigan, it was found that older teachers were the most likely individuals to be teaching disadvantaged and handicapped students in vocational agriculture. Another study also completed in Michigan recently reported that older teachers were found in general to have more positive attitudes toward teaching disadvantaged and handicapped students. The question to be answered is: "Why are older teachers teaching more disadvantaged and handicapped students?" Perhaps the answer is that it takes time to develop the skill to successfully deal with the disadvantaged and handicapped. Further, younger teachers may not feel as comfortable as older teachers in teaching the disadvantaged and handicapped students. Whatever the reason, the profession must continue to improve on a good tradition of providing excellent vocational training to students regardless of their classification.

Under current legislation, funds have been allocated to provide the "extras" that are required to offer a quality vocational training program for those who are labeled disadvantaged and handicapped. Teachers should take advantage of these funds, aggressively seek them out, and comb through the new regulations to get a feel for "general" training. The attitude of vocational agriculture teachers to turn the presence of disadvantaged and handicapped students from a problem to an opportunity to demonstrate the value of vocational agriculture to each individual and, thus, to America.

By ANDREW MOLLOCHIE

Editor’s Note: Mr. Molochie is Vocational Agriculture Teacher at Lackawanna County Vocational Technical School in Mayfield, Pennsylvania.

The Handicapped Student in Vocational Agriculture

Four years ago the counselor at the school where I teach came to the classroom and asked for a short conference. He explained that the parents of a handicapped child wished to talk to me in his office inquiring about vocational education for their son. He explained to them that because of the nature of the work being done in most of the shops, it would most likely be too dangerous for the son. He told them that I would ask the instructors if they would accept this young man with his obvious limitations. The counselor questioned me: were you to think that a handicapped student could assist in your shop, and would you be willing to let him try? Being a vocational teacher, I had to try, since my enrollment was anything but capacity.

Two weeks later, an open house was held at our school. It was the time that I got to meet my handicapped student for the first time. He was 16 years old, a little overweight, had thick glasses, and walked with a funny waddle. His response to questions or any conversation was short and abrupt and so that his "yes" or "no" answers both sounded somewhat like a grunt. He had birth defects that left him legally blind (although he could see to read up close) and partially crippled (so that he had to have hips implanted into his hips). This accounted for his rather pathetic appearance. His parents were very nice people, probably in their late fifties, and were all excited that their son might be accepted at our school. Even though I was having second thoughts, I agreed to accept him into the program.

My next thoughts were how to go about the seemingly difficult task that lay ahead. Not having any training in teaching special education, I very quickly concluded that I would probably try to get a handicapped student any other student would receive. Yet, it was obvious he would need more training.

Hence, over the few years of teaching experience under my belt, I already had a system which let a student develop at his or her own rate. I thought it would challenge the better students. I realized that this special student should be able to adjust to it.

The Self-Entry System

A self-entry system is used at my school. The students make entries into a record book at the end of the class. They tasks they did that day are written down along with a self-assessment of how well they could do the specific task. They also record the amount of time spent in doing the task. The book used for this purpose is the "Record book of Occupational Skills and Tasks," published by the Pennsylvania Institute. It is designed for use in Ornamental Horticulture Problems, such as the one at my school. The fact that it has a place for evaluation by the teacher makes it possible to use the record book as part of my marking system. My approach worked well with the handicapped student. Even though he was unable to do all the things that the other students did, he would enter in his entries for each day for the things that he could do. In this area he was on an even plane with all the other students, and he apparently did not feel unable to compete. The marking (grading) system used is important in student motivation. The one I use is as follows: 60% on task performance (record book mark) 30% on tests over theory given in the classroom 10% on character and attendance.

This approach in marking means that a student who is poor academically or who has a handicap can earn a passing grade by working hard on the tasks and having good school attendance. This is not difficult for them because the students who are handicapped are usually well behaved. A challenge is still maintained for other students because the 30% theory mark will make the difference between just passing and earning an A or B. We have handicapped students, like the one I described earlier, working side by side with the students who are planning to go to college. The handicapped students apparently feel equal. The better academic students get to know the special students as friends and sometimes accept them as class members. That may be over simplifying the situation, but in time it usually works out that way. Of course, there are many (Continued on Page 6)
The Handicapped Student
in Vocational Agriculture
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other factors that enter into the picture of a classroom made up of different individuals.

Students Helping Students
The "A" students in the class catch on fast and become big-time buddies in a little while. When their work has been completed, they become my teaching aids for the slower and handicapped students. In most instances, they are willing to help the slower students. In fact, close friendships may develop.

Students work in groups on projects in the school test gardens and greenhouse. Each group has a foreman. The foremen are given responsibilities and select from the rest of the class those students who they want to work in their group. The selection is in rounds so that the talent in the class is distributed in the groups. The groups work cooperatively for a mark. This system involves the special students as a part of the group. These students are often formed of students who would probably not associate with each other because of their differences.

The FFA
The FFA is used as a means of providing for individual achievement and challenges that need to be chang- ed. With FFA, leadership and cooperation are most important. The FFA program of work is designed to be about half a semester in scholastic contexts and one-half in recreation contexts and community involvement. By doing this, the handicapped and special students are able to become involved in some activity.

Give Them A Chance
Since my first special student came into class a little over four years ago, I have had a little over 12 to 13 percent of my classes comprised of students with special educational needs. They function well in our pro- gram. Even though they were unable to learn enough to make themselves independent of others, the understanding and fellowship that is created among our young people is well worth any extra effort.

There are no unusual ideas in the approaches that I use in working with the handicapped students in the class. It is a must that they should not be counted out before you give them a chance. Their biggest need is to feel that they can be successful in class.

THEME
Mainstreaming: There's More Involved Than Teaching Students
Teaching special education students "mainstreamed" into vocational classes is now a fact of life for many teachers of agriculture. Mainstreamed students extend the range of student mental and/or physical abilities in classes. This in- creases the competencies teachers need for effective in- struction. Unfortunately, many teachers have been ex- pected to teach mainstreamed students before being pro- vided an opportunity to develop the additional competen- cies needed.

There is more to successful mainstreaming than teaching competency to teach mainstreamed students. Of equal, and perhaps greater importance, are the factors of teacher involvement in placement and evaluation, administrative decisions affecting resources and procedures, and the sup- portive role of special education staff. This article will focus on the importance of these factors to a successful mainstreaming program for pupils with special education needs.

Teacher Involvement
Teachers need to be actively involved in decisions to place mainstreamed students in their classes. Teacher involve- ment should be proactive rather than reactive. This means that teachers will need to be knowledgeable about special education requirements and procedures. The Education for All Handicapped Children Act (P.L. 94-142) and the 1976 Amendments to the Vocational Education Act are basic. The August 23, 1977, Federal Register cites the rules and regulations for PL 94-142.

"Mainstreaming" is not mentioned in Public Law 94-142, or the requirement for an appropriate education in the "least restrictive" educational environment. The question in mainstreaming placement thus becomes, "Is the vo-ag program the least restrictive environment for a given student?" Or, stated another way, given the student's goals, interests, and abilities, is the vo-ag program the best place- ment for this student? Teachers need to be proactive to assure that special education staff and other members of the special education committee legally mandated in each district have a clear understanding of what the vo-ag program in- volves. This will require careful analysis of the objectives of the program and both written and verbal communica- tion by the teacher with special education staff members.

Where physically handicapped students are involved, funding to modify equipment and facilities for student ac- cess and special needs may be required. The special sub- skills to activities need to be identified (for example, fol- lowing directions is a prerequisite skill to operating safety). Emotional safety and physical ability are also consid- erations in safe operation of machinery and equipment. The teacher needs to insure that such factors are considered in needs assessment and decision making.

The student's mandated individual education plan (IEP) should also be considered. The 1976 Amendments to the Vocational Education Act specify that special education programs be available to handicapped students. When vocational education is included as part of a student's IEP, vocational educators must be part of the IEP team.

Only when agricultural knowledge and skills represent- ing preparation for entry level employment in an agricul- tural occupation are within the student's capacity and career goals should placement in vocational agriculture be made. The young people involved with involvement by the agriculture teacher and in sufficient detail to assure preparation for employment. Vocational education objec- tives should be an integral part of the IEP. All students should be interviewed prior to placement. Rather than having mainstreamed students "placed" in their class, teachers of agriculture should actively seek and insist on involvement in the placement process. Careful student testing and diagnosis is needed to assure students have the minimum competencies required in the vo-ag program. Where such is lacking, supplemental help in basic skill areas may be needed prior to placement.

The key placement of handicapped students must ap- propriate to their interests, goals, and abilities is the collect- ion and use of comprehensive information with direct in- volvement of the vocational teacher. Otherwise, educa- tional opportunity for students as well as teacher effective- ness can be compromised.

Active teacher participation in the evaluation of main- streamed students is also important. Teachers have a significant and necessary role beyond classroom evaluation. This role includes sharing responsibility for decisions on student IEPs. If the student is an "approved" placement, the vocational teacher who is an integral part of the IEP decision. The administrative policy will be major factors in determining the ex- tent of the teacher role. The program evaluation committee is legally mandated to include parents of handicapped students. Also, the parents of individual students are often included on the IEP team. Teacher interaction with parents, especially at the IEP team level, is important.

Resources and Decisions
Administrative leadership is critical to successful main- streaming. Budgeting for modifications to facilities and equipment is one example. Funding to modify equipment for physically handicapped students is an administrative responsibility. Funds for instructional materials and special equipment to meet individual student needs also fall under this area. Budget- ing and leadership are critical to work for educational success with different types of mainstreamed students is an important administrative responsibility.

Another important, but sometimes overlooked, area is scheduling. Vocational agriculture classes are appropriate for mainstreamed placement. Teachers who make the special effort to be successful in working with mainstreamed stu- dents should not have the burden of having additional mainstreamed students placed in their class. This can result in regular students dropping out, which, in turn, means a class with low enrollment where "additional" main- streamed students are then placed. Such a negative reward cycle is readily apparent to teachers and can be a serious barrier to a successful mainstreaming program.

Additionally, mainstreamed students should be double counted (as in funding) in considering class size. Eighteen regular and two mainstreamed students should be counted as 22 rather than 20.

Other critical administrative decision areas are policy to assure teacher involvement in placement and program to pro- vide a strong support role for special education staff. Bud- geting for an adequate special education support staff is also important. Teachers time for cooperative planning, co- ordination, and evaluation of mainstreamed students needs to be provided.

Grading and evaluation are other areas of concern. Where grades are assigned in addition to occupational pro- files, a policy for mainstreamed students should be estab- lished.

Placement of graduates as a basis for program evalua- tion is another area of concern for teachers. The realities are that mainstreamed students are usually prepared for employment in a narrower range of occupations. Also, employers may be less receptive to employing handi- capped persons. Administrative policy on program evalua- tion needs to consider mainstreamed place- ments. Also, extra effort will be needed to place handi- capped students in jobs.

Administrative leadership to budget resources and establish supporting policies is essential for the successful mainstreaming. Teachers need to convey this expectation to administrators individually and through professional organizations.

Special Education Staff
Special education staff for mainstreaming will vary by staffing levels, administrative policy, and the quality of in- teraction between staff and the agriculture teacher. The support role includes placement decisions, support in teaching, and evaluation.

Positive teacher attitude and initiative are important to obtain the cooperation of special education staff. It is impor- tant to have experience and access to helpful resources that can facilitate mainstreaming.

Administrators need to assure that mainstreaming poli- cies are reasonable and fair. All teachers, not only those unmanned, should be expected to work with mainstreamed students. Teachers need to be comfortable with mainstreamed placement. Teachers who make the special effort to be successful in working with mainstreamed stu- dents should not have the burden of having additional mainstreamed students placed in their class. This can result in regular students dropping out, which, in turn, means a class with low enrollment where "additional" main- streamed students are then placed. Such a negative reward cycle is readily apparent to teachers and can be a serious barrier to a successful mainstreaming program.

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Administrative leadership to budget resources and establish supporting policies is essential for the successful mainstreaming. Teachers need to convey this expectation to administrators individually and through professional organizations.
Mainstreaming: There's More Involved Than Teaching Students

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mainstreaming. Staff tend to "gaze the squeaky wheel," so it may be necessary to ask for help. Where the response by staff is inadequate, a change in administrative policy may be needed.

Joint staff meetings of the special education staff and vocational teachers should be a regular part of the school program. Open communications and a team approach are necessary for effective working relationship.

The Reynolds and Birkh concept of a "cascade" of services is useful for a team approach. A "cascade" is a continuum or flow of services (options) provided jointly by special education and regular education rather than provisions of two separate parallel sets of services. However, collaboration by such a team approach will necessarily be time-consuming. Hopefully, the advantages will justify the time required.

Quality Education

Although the ultimate value of mainstreaming is in the quality of education provided to students, the factors of placement and evaluation, administration, and support from special education staff also have a major impact on educational quality. Successful mainstreaming requires attention to student/teacher interaction and the facilitating factors in the school environment.

Reference

The Penn State Story... Vocational Teacher Education for Special Needs Students

Most vo-agg classes have students with a wide range of physical and mental abilities. Some will enroll college for further preparation for careers while others may have difficulty completing high school. It is these latter students who have learning difficulties and who, in many cases, stay in school only because of the vocational education program. Reading is difficult and English is meaningless for many of them. Others cannot compete in sports because of physical disabilities.

When given the opportunity to enter a vo-agg program, some will excel in shop, others in vo-agg judging contests, and still others in supervised occupational experience projects. And there are those who find that success in a vocational program does not come easily. Special needs students may get excited about school when they work in the mechanics laboratory, occupational experience programs, and the FFA.

With many special needs students, words alone do not communicate. They must see something and work with it before they understand it. For them, the practical application phase is especially important. For those with physical disabilities, ways must be developed to adapt facilities and equipment for their use. Teachers also need to know individual and group techniques to help the special needs students develop to their fullest potential. For example, all occupations require a certain amount of reading skill, such as being able to read directions, use control chemicals to a field crop or read the operator's manual for a $6000 harvester.

The major difficulty for the vocational agriculture teacher is to teach students who have a wide range of abilities. Teachers need both preparation for teaching special needs students and appropriate instructional materials (Curtis, Byrd, Mckadden, 1973). In Pennsylvania, teachers reported that 19 percent of their students had special needs. Other sources report it is much higher for the United States (Conroy, 1978). With mainstreaming, students not formerly enrolled in vocational agriculture now attend school with their classmates.

By Samuel M. Curtis and David J. Howell

The major difficulty for the vocational agriculture teacher is to teach students who have a wide range of abilities. Teachers need both preparation for teaching special needs students and appropriate instructional materials (Curtis, Byrd, Mckadden, 1973). In Pennsylvania, teachers reported that 19 percent of their students had special needs. Other sources report it is much higher for the United States (Conroy, 1978). With mainstreaming, students not formerly enrolled in vocational agriculture now attend school with their classmates.

We at Penn State

It was decided to approach the development of teacher competency from several different directions. One was to find out what other people were doing. All 84 agricultural teacher education programs in the United States were surveyed. Course outlines were collected from those three institutions offering course work at that time. In the summer of 1975, an experimental course entitled "Teaching the Disadvantaged in Vocational Agriculture" was offered to 33 inservice teachers. Concomitantly, summer workshops offered in special education and special education were made available to a group of vocational and special education teachers. A special needs committee with representation from Home Economics Education, Agricultural Education, Home and Industrial Education, and Special Education was appointed. This committee now provides the direction for the Pennsylvania effort.

Subsequently, two thrusts have developed. The first was an infusion - the introduction of teacher competencies related to special needs students into the methods courses offered by the various departments. The second was the development of an across-the-board vocational teacher education course. The underlying assumption for both thrusts was that the special needs student is less able than his or her more advantaged counterpart to cope with the effects of poor teaching. Hence, our major objective was and is to develop more effective teachers. The second part of the commitment was to focus on those areas of vocational education where special needs students are unique. These areas are: guidance and identification, cooperative education, 3 support services, 4 curricular and facility modification, and 5 individualized instruction. We are hopeful that the teacher education modules from the National Center for Research in Vocational Education will assist in the delivery of these unique competencies when they become available. The major units in the Pennsylvania course are: 1) legislation, 2) identification, 3) common and unique needs, 4) school support systems, 5) community support system, 6) facilities and equipment, and 7) cooperative work experience.

The course format is designed to obtain maximum benefit from the teacher's professional experience. Each experienced teacher enrolled in the course writes a case study on a special needs student previously taught. Case studies are written around the course content areas listed above. For this project, many members without teaching experience are teamed with those who have experience. The case study must address student needs in relation to the core competency areas in the course outline. About 20 percent of class time is spent in analysis and discussion of the case studies. To date, the course has been offered both on and off campus. Student evaluations of the course are positive, but they cite the need for additional work in the course content areas.

From our experience, several problems are apparent. First of all, there is too much to accomplish in one three-credit course. A possible future direction is to split the course into two courses, one relating to disadvantaged special needs students and the other relating to the handicapped. Secondly, a small percentage of teachers who enroll have negative attitudes toward inclusion of special needs students in their classes. They totally reject the concept of mainstreaming. This attitude must be addressed before the class can proceed.

References

The Cover
Johnny May, an undergraduate student in the Department of Agricultural and Extension Education at Mississippi State University, is shown preparing for a silently presentation. Injured in an accident, Johnny is confined to a wheelchair. He plans to teach vocational agriculture after completing the bachelor's degree. (Photograph by the Editor.)

THE AGRICULTURAL EDUCATION MAGAZINE

THEME

NOVEMBER, 1980

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Serving Special Needs Students

There appears to be a good amount of literature on serving disadvantaged students in agricultural education. Even though there is a need to determine how the special education profession can more effectively serve disadvantaged students, this article will focus on handicapped students. In general, discussion will focus on those special education students who have various impairments (mental retardation, emotional disturbance, learning disabilities, sensory impairments, speech and language impairments), and can benefit from regular classroom activities. Much has been done over the years relative to serving and mainstreaming students. Yet, a tremendous amount of new work needs to be done.

Historical Perspective on Serving Special Education Students

The education profession has encountered some difficulties in serving special education students. Some probably feel that because of these difficulties, we have made a full circle in regard to identifying the best approaches for serving these students. The research and literature does not indicate that educators are where they were fifty years ago in regard to educating handicapped pupils. Fifty years ago, most students had only two choices: stay at home or enroll in a regular classroom with the rest of the other students. The mainstreaming concept today is to place handicapped students in least restrictive environments. While the regular classroom is considered the least restrictive environment, a team of educators (regular classroom teacher, consulting teacher, resource room teacher, and principal) is given the responsibility to work with handicapped students and their parents to deliver the best education possible. In successful mainstreaming programs, this team is supported by the school board, the superintendent and his/her staff, and other personnel.

A brief look is provided here at how special education students have been served over the years. The examples to follow are not all new situations, but are listed to depict how special education students with different problems may have been served or not served in former years.

Pre-1950

Sally crippled by cerebral palsy may have been hidden away in the back bedroom with few community people ever knowing that she existed.

John may have dropped out of school because he could not read, spell, write, or perform basic mathematical computations.

George, a real trouble-maker, fought each day while in school, cursed his teachers, and attended school whenever he wanted.

1950-1969

A boy in a given community would have known Sally was crippled by cerebral palsy. In most cases, she would have attended special classes or received instruction in

home by a visiting teacher.

A student like John in the 1950's would have been encouraged to attend a vocational school even though this may not have been the best recommendation.

George in the 1950's would have been diagnosed by the school psychologist as having an unhappy home life, low-normal IQ, and used the school to release some of his frustrations.

1970-1974

Sally would have been enrolled in a class for the orthopedically handicapped.

Classes would have been designed for students like John to assist him in reading, utilizing practical arithmetic problems, and reducing issues directly related to employment and daily life.

George would have been enrolled in a special class for example behavior modification techniques designed to help him learn more effective ways of living and working with peers and adults.

1975 to present time

Sally is apt to spend most of the school day in a regular classroom and brief periods during the week in a resource room developing better motor coordination. Sally's regular teacher, resource room teacher, and consultant meet periodically to discuss her progress and identify additional processes to meet her needs.

John spends half his school day learning basic literacy, mathematics, and social skills. The remaining half of the day, John enrols in a special vocational program in which he develops vocational skills in addition to learning how to get a job and maintain a job.

George enrols in a regular classroom where the teacher uses behavior modification techniques to reduce George's disturbances. The results should be helpful in that George will be able to spend more time on academic matters.

Innovations in Teacher Education Programs

With the passage of Public Law 94-142, the Education for All Handicapped Children Act, staff in the Bureau of Education for the Handicapped felt that higher education institutions had an important role to play if the mandates were to be achieved. In 1974, the Bureau staff invited

deans of colleges/universities, schools, divisions, and departments of education across the nation to submit proposals to investigate alternative solutions for training school personnel effectively in carrying out Public Law 94-142. Specifically, P.L. 94-142 indicated that states must establish procedures to "assure that, to the maximum extent appropriate, handicapped children, including children in public or private institutions or other care facilities, are educated with children who are not handicapped and that special education programs or other removal of handicapped children from the regular educational environment occurs only when the nature or severity of the handicap is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily." (Education for All Handicapped Children Act, P.L. 94-142).

Considering current approaches for serving handicapped pupils and P.L. 94-142, it was detected by Bureau staff that school personnel (teachers, principals, supervisors, counselors, superintendents, etc.) needed assistance in the placement of handicapped students in regular classrooms.

Initially, state planning and development projects were approved to investigate alternative approaches for training education personnel to accommodate handicapped students in regular classrooms. These grants were called the Dean's grants. During the 1977-78 fiscal year, 81 projects were funded and the Bureau allocated $3.2 million for the effort. After two years of funding, the feedback seems to indicate that the task of restructuring school personnel preparation programs is going to be difficult.

The main problem for the public schools in their attempt to meet the requirements of Public Law 94-142. Furthermore, it creates problems for the education profession because of a lack of skills on the part of school personnel to work effectively with handicapped students. Secondly, there is resistance among faculty and administrators in institutions of higher education to restructure school personnel preparation programs.

Challenges for Teacher Educators

Teacher educators in agricultural education should be aware of Public Law 94-142 and some of the difficulties to be expected in responding to the mandates. Preservation and intersear programs will have to be further developed in colleges and universities to prepare the teachers for the new facilities. Vocational agriculture teachers will make a difference in the placement of handicapped students in regular classrooms. Therefore, teacher educators should work to prepare agents for restructuring school personnel preparation programs at the University and college levels. Present and future school personnel preparation agents for educating handicapped students in the least restrictive environments. College and university facilities are most capable of providing the type of person and training that can best be provided through a collaborative effort.

If teacher educators elect to be change agents for preparing school personnel to work effectively with handicapped students, the following guidelines may be of some assistance in managing change:

1. Design a long-term process to promote change
2. Build readiness to collaborate
3. Strengthen processes for communication, problem solving, decision-making
4. Supplement strategies that produce cognitive change
5. Start the change process (effort) with highly visible actions
6. Provide for frequent meetings and staff development once implementation begins

The mainstreaming movement will undoubtedly continue to be a focal issue with students that will need to be served. Teachers will have an important role to play in this movement. They will be called upon to assist school pupils in becoming effective learners with handicapped students. The efforts are apt to be more productive and effective if some of the traditional delivery systems are restructured through collaborative efforts with other faculty who are also responsible for preparing school personnel.

Reference


BOOK REVIEW


Noting to the authors, the changes in this sixth edition of the book are so pronounced that it is virtually a new book. The changes include a greater emphasis on farm business management; farm records and business analyses; farm marketing; farm organization; farm management and business arrangement; budgeting; and getting started in farming. Least emphasis has been placed on specific production technology.

This book contains 25 chapters which are divided into six major parts. These parts include: "Things to Consider Before Starting Farming." "Getting Started in Farming." "Farm Records, Income Tax Management, and Farm Bookkeeping: Financial Planning, Profit, and Credit." "Planning for the Future." Adjusting the Farm to Price and Market Conditions;" and "Other Important Considerations." Both authors are affiliated with the University of Wisconsin at Madison. Robert A. Luehring is a professor of farm management and William L. Mortensen is professor emeritus of agricultural economics. They have had practical experience in farm management and have published all previous editions of the book.

This book was designed for use as a text in agricultural courses. It was written as a text for the Intermediate level of the National FFA Farm Business Management Contest. In addition, the book was designed to be useful to practicing farmers, off-farm owners, and those individuals considering entering farming.

J. Dale Oliver Virginia Polytechnic Institute and State University Blacksburg, Virginia
Reaching Regular and Special Needs Students at the Same Time

Many vocational agriculture teachers have become frustrated at attempting to teach special needs students in their regular classrooms. Teachers are asking many questions. What should I do with the regular students while I am working with special needs students? How can I keep from losing the heads of special needs students when I am on the right level for the regular students? These are typical questions being asked by teachers who are teaching mainstreamed special needs students. A more basic question could be: What is mainstreaming and why do we have it now? Mainstreaming is an approach for integrating special needs students into regular classroom situations. One of the major purposes behind mainstreaming is to assist special needs students in making the total transition into adult life. It is possible that special needs students spend all of their time at school with special needs students, they will not know how to work with other people when they become adults.

One of the most serious mistakes teachers make is to isolate special needs students from part of the regular classroom. This isolation can occur in many ways. It may occur when students do not participate in the class work by themselves on a project. It may occur if there is only one special needs student in the class and that individual is always by himself or herself. Isolation also occurs when individuals are being used as the major instructional technique. The question still remains as to how we reach both regular and special needs students at the same time.

Reaching Both Groups
One way to reach both groups in the classroom at the same time is by assigning pairs of students to work as a team. Pairs of students are frequently used in laboratory situations. These laboratory teams have been used out of necessity. Many times there were not enough welders or other equipment for each student to work individually. The solution to the problem was to assign teams of two or more students to a piece of equipment. Generally, this procedure has worked quite successful. Teachers can assign a special needs student to a team which has one or more regular students in it. These students can read together during supervised study and they can also help each other take notes when class discussion centers on the topic of the day.

There are other ways that small groups can integrate special needs students. Whenever small group reports are given in class, special needs students should be part of such small groups. Committees for the FFA chapter program of activities should have special needs students as members. Whenever possible, special needs students should be a part of a chapter achievement team.

It is also possible to use a combination of individualized instruction and large group instruction to reach special needs students.

Combination of Individualized and Large Group Instruction
An almost universal problem for special needs students is that of an inability to read. One possibility to cope with the special needs student is to let them listen to an audio cassette tape recorder during supervised study. One of the students in the class, the departmental secretary, or the teacher could read the words of a reference in to the tape recorder before class. The special needs student could use an ear plug and listen to the words while seeing them in the reference during supervised study. If there are two or more special needs students they could listen to the tape recording at a table by themselves.

Vocational agriculture/agribusiness teachers are currently being asked to instruct both regular and special education student group, including those classified as physically handicapped. This is vital to the success of PI 94:142, Education of all Handicapped Children Act. It is mandatory that handicapped children be placed in the "least restrictive environment." This is being interpreted by many school officials as the regular vocational classroom.

A case tape recorder is generally ideal for the classroom situation. It is most commonly used in automotive technology, business, and agriculture classes. A cassette tape recorder is generally ideal for the classroom situation. It is most commonly used in vocational agriculture departments. Once a recording has been made it can be easily stored and used in future years. It is not always necessary for the teacher to be the one who does all of the work of recording. Additionally, special needs students will enjoy working with the tape recorder, and those who are hard of hearing can turn the tape recorder to a volume which they can hear.

A Challenge
Special needs students provide a special challenge to teachers in regular classrooms. There are effective and practical ways to meet the challenge of teaching such students. It is possible to combine the interests of both special needs and regular students without really isolating either group.

How do vo-ag teachers feel about teaching disabled students? A study conducted at Auburn University in 1979, which tested a cross-section of teachers as to age, experience, and educational levels, revealed a generally positive attitude toward the handicapped student. Teachers had a true point of view. There was no negative or positive bias. Teachers were reasonably well educated with an average score of 16. Those teachers who scored below 16 believe that this score has no effect on their teaching, while those who scored above 16 believe that this score has a definite effect on their teaching.

Attitudes of Vo-Ag Teachers
Some teachers are quite positive about teaching disabled students. Others are quite negative in their attitude toward the handicapped student. Some teachers believe that they are not suited to teaching disabled students. Others believe that they are suited to teaching disabled students. Still others believe that they are not suited to teaching disabled students.

I am a little different from Gwen. I was born with my disability. It is hard for me to see any physical problems. I really don't have any problems with what I can do. I do everything I want and I've been doing these all my life. I have ways and means. I live alone and do all the things I need to do. I have a very strong bent toward music and I've been doing this all my life. I have ways and means. I live alone and do all the things I need to do. I have a very strong bent toward music and I've been doing this all my life. I have ways and means. I live alone and do all the things I need to do. I have a very strong bent toward music and I've been doing this all my life. I have ways and means. I live alone and do all the things I need to do. I have a very strong bent toward music and I've been doing this all my life.
Improving Insight into the Problems of Physically Disabled Students

(Continued from Page 13)

easily, I am responsible for creating an environment in which I can be successful. There was a time when I sat back and said, "Here I am, help me move the world right for me to get along with!" I would wait for someone to come talk about the things that needed to be done to create my own environment. This adjustment didn't happen naturally.

Fanny: Yes, to make the best of the situation. The public attitude is changing and that's what we need...

Interviewer: Have you had any special problems in classroom or laboratory work?

Gwen: Most of the other chairs are a problem; I usually write in my lap, I prefer tables where I can pull up under them in my wheelchair and sit next to people in chairs. On field trips, I've only been to one place that was inaccessible. Labs are a problem, they're often too high, with stools for the students to sit on. Those are very unhealthy.

Robert: Not really, I spent 12 years in public schools, so I've had no problems with writing, which required oral exams. One person wrote for me, I've been fortunate in that these were always available.

Fanny: I've had no problems in my school program because I was in a rehabilitation center where all these things were provided.

Interviewer: What can people do—and especially teachers—to help students with disabilities?

Gwen: Make everything architecturally accessible, like ramps, elevators, level surfaces to enter buildings, things like that. Make sitting accessible. I could humbly suggest enough to ask somebody to pull me up steps or get me a cup of water. But, I draw the line at asking somebody to carry me through a door that I can no longer open. If I were just staying at home before doing that so it would make a lot easier for me to do it. It's the same if things like that were accessible.

I'd also like teachers to treat me like any other student and not be guilty or overly solicitous. Maybe the first day of class ask if there are any considerations they can do to help me move around. "If there is, let me know later." But after that, just let me be one of the students. An obvious thing is with wheels, I'd rather they move classes to the first floor than be carried up stairs. People might feel that is making the class accessible but it is dangerous for all concerned and bad for one's pride.

Robert: Basically, I go along with what Gwen says: accessibility. I'm laterally mobile because I have a problem in my legs. I can get crutches and walk short distances, climb stairs (it's a hassle though) but I can do it.

Communication is a problem, so teachers must be creative and seek alternate ways to communicate with the student. This is the biggest thing. Communication is the essence of the teaching-learning situation, so if you sent a message and the receiver doesn't get it, that is your problem. Dealing with the students and communicating to a class is a perceptual problem, not an actual problem. People think that because I have a speech impediment they will not be able to understand me. In fact, they can understand me because they will listen closer and pay closer attention. The problems that we teachers must consider if jobs like desk work, reading, or travel. Federal regulations for furnishing a driver for a sight-impaired person if he is otherwise qualified. I'm fortunate in that aspect because I am available in my job to drive me around when needed.

Fanny: One thing that is being done is the removal of architectural barriers, just moving things so that when you bump into them it doesn't hurt so bad is helpful. Of course, public transportation systems are a problem to people with visual problems—these do wonders.

Teachers should know about the nature of visual problems. Many visual problems are progressive in nature (they get worse). This causes depression, so teachers must be aware of this and be ready to give some understanding.

On chalkboard: If the teacher will talk along with their writing, it will be easier to follow, as well as using white chalk on a black chalkboard. Avoid using a yellow chalk on a green chalkboard. This is a problem, but not a problem. Effects of reading, teaching, and writing with primary (y) selected type of text makes testing easier to read. Having a reader available to help people who cannot read for themselves would also be a great aid.

Interviewer: What limitations to educational goals are dictated by your special disability?

Gwen: I feel that since my mind, arms, hands are okay, I wouldn't have many problems in most any career. Of course, things like sports or a career in the army wouldn't be available to me. But as far as an education, nothing should limit me. People may have to reach things or carry things for me, but I can repay that favor. There are a lot more things I can do than can't do.

Robert: Not too many, I intend to stay at the same level. I have done some teaching at Auburn and have been a graduate assistant for two years. Communicating is not a problem. The second step was adding a word problem to weekly quizzes. This step just drew the most groans from a man or someone else did it for them.

The Solution

The first step toward improving this situation was adding a short unit entitled "Math for Agriculture" to the vocational agriculture curriculum. Emphasis in this unit was placed on everyday application of math skills. It included basic math operations, percentages and decimals and conversions of units from one system to another. The unit was priced at $5.00 per hour for which you were charged $3 commission and $100 of the purchase of this program reserve unit.


This book is a compelling collection of articles reflecting the views of black landowners in the South. In 1910, the number of black farmers in the South peaked, with 15 million acres owned and farmed by blacks. Estimates today indicate that 5 million rural acres are owned by blacks. It constitutes the largest economy resource controlled by blacks in the South.

This drastic decline in black ownership of land has created a political problem in the rural communities. It has eroded the security and independence of many black families, which in turn erodes rural communities of their human resources.

The book gives solid historical data on the evolution of black ownership of land in the South. It covers many aspects of rural reconstruction, social, political and economic that are not covered in history books. Although it cites many reasons for the decline of black ownership of land in the South, the most important: are the factors of black laws and landowners, racial discrimination, failure to write wills, and the lack of education.

As teachers of agriculture, perhaps we have often overlooked an important aspect of that teaching youth the importance of keeping their land and making it productive. This collection of essays and extension specialist should be familiar with the book.

Sidney R. Fields
West Kentucky High School
Mt. Gilead, North Carolina

October 1980

The Black Rural Landowner — Endangered Species: Social, Political and Economic Implications, edited by Leo A. McCor and Robert Boone. Greenwood Press, 1979, 200 pages, $17.95. This book is a compelling collection of articles reflecting the views of black landowners in the South. In 1910, the number of black farmers in the South peaked, with 15 million acres owned and farmed by blacks. Estimates today indicate that 5 million rural acres are owned by blacks. It constitutes the largest economy resource controlled by blacks in the South.

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October 1980
Reaching Learning Disabled Students

By Diana Burgess

Editor's Note: Ms. Burgess is learning disabilities specialist at the Rockingham County Public Schools, Martinsburg, Virginia.

Ready or not, the vocational agriculture instructor has been thrust into a new role — that of special education services for handicapped students. To reduce confusion, let's define the term "handicapped students" in vocational agriculture. According to the Rehabilitation Act of 1973, a handicapped student is "...an individual who is physically or mentally impaired as such impairment adversely affects a major life activity of such individual. The term also includes an individual who is regarded as having such an impairment. The term "handicapped" means such an individual..."

Vocational classes in many areas have traditionally been composed of a large number of "slow learners" or "disadvantaged" students. The difference is that now many of these students have been identified as "learning disabled" and qualified for special educational services because of their learning handicaps. Federal law insures that all handicapped students receive educational services which are specially designed to meet the unique educational needs of each student.

Teachers of agriculture should look at this new role as an opportunity — not as a burden.

Characteristics of the Learning Disabled

Study groups of students with learning disabilities do not learn in the same way as others, in spite of normal or above normal level intellectual abilities. They are not retarded. They are often referred to as dyslexic, perceptually handicapped, or neurologically impaired. They compose approximately five percent of the total school populations; the majority of whom are in the vocational systems.

In vocational classes, 10 to 20 percent, or even more, may be learning disabled. Most of them have difficulty forming sound-symbol relationships, and have not developed adequate reading skills. They often reverse letters or even whole words, such as confusing b and d, w and s. Many are poor listeners. Those who can listen often have difficulty expressing themselves.

Most learning disabled students are easily distracted and have a short attention span and poor concentration ability, so they cannot remember and follow instructions well in the classroom. Some are hyperactive. Some have poor eye-hand co-ordination and find it difficult to express themselves in writing. Others are delayed in speech and language development, though many express themselves very well verbally. Impulsive and aggressive behavior is often demonstrated. Almost all victims of learning disabilities are usually considered to be poorly adjusted, extremely frustrated by their lack of success in school and, as a result, have a very poor self-concept.

How Vo-Ag Can Help

Teachers of vocational agriculture are in a unique position to make the difference between a life of failure or success for many of our students. Because vo-ag instruction is based on hands-on experiences, students with learning disabilities are more likely to succeed. A patient, understanding teacher who uses a variety of visual aids, manipulative materials, and demonstrations, to help those who cannot read adequately will do much to build a student's self-esteem. The challenge is to find the way to make learning easier for all students.

Home visits, which have long been a part of vo-ag, provide a teacher with a valuable opportunity to help both the student and his or her parents to understand and accept the strengths and weaknesses, as well as the disabilities, which each person possesses. These youngsters desperately need the opportunity to develop a relationship with a teacher who develops between an agriculture instructor and his or her students.

Unfortunately, because each learning disabled student is different in the manifestation of his or her learning disabilities, there is no "one size fits all" or "magic kit of materials which an agriculture teacher can purchase to solve the problem of reaching the learning disabled student in a regular class situation. However, with a little time and ingenuity and a basic understanding of your student's deficits, materials can be made or adapted which can be used successfully by the handicapped student.

Assign work on short task at a time. Provide immediate feedback to the student, if possible. Some learning disabled students will need extra time to complete a task or should be given a shorter assignment so they can finish in the same time as the other students. For example, when answering questions, regular students may be required to write a complete sentence, learning disabled students only the key word. Texts may be given orally, on a tape recorder, or read by another student.

Many learning disabled students who can't follow written directions can utilize a diagram quite effectively. A good example is when building shop projects. Students should be encouraged to participate in class discussions. Assign responsibilities which they can successfully carry out independently, such as "shop manager" who sees that the area is cleaned well and promptly maintains the tools. And remember, with these students, the environment must be free of distractions.

The Challenge

The role is yours whether you want it or not. Whether or not it will be an enjoyable one is up to you. Time, patience, understanding and knowledge of the student is the key. You must give the handicapped student time, effort, love and understanding. You must give, most of all, of yourself.

Is it worth it? Yes, I sincerely think it is. I have seen dramatic changes occur in a student just because someone cared and understood. How many of us have seen dramatic changes occur in a student just because someone cared and understood. How many of us have seen dramatic changes occur in a student just because someone cared and understood. How many of us have seen dramatic changes occur in a student just because someone cared and understood. How many of us have seen dramatic changes occur in a student just because someone cared and understood. How many of us have seen dramatic changes occur in a student just because someone cared and understood.

(Continued on Page 18)

Giving Special Education Students a Chance

By Raena C. Wharton

Editor's Note: Both authors are with the Vocational Special Needs Program at the College of Education at Texas A & M University. Ms. Wharton is Editorial Assistant and Ms. Harris is Assistant Professor.

What do you do, as a vocational agriculture teacher, do when a handicapped student is placed in your program? Do you feel panic, frustration, resentment? Maybe it hasn't happened yet, but chances are good that your classes will include more handicapped students in the future. Since the passage of P.L. 94-142, increasing numbers of these students are being mainstreamed into voca- tional programs. How will you handle them? Two teachers in Texas with a background in agricultural education and experience in working with handicapped students have some suggestions.

Maintain a Positive Attitude

Eleven-year veteran agriculture teacher, Clyde Barber, now Director of Special Education Services in Dallas, Texas, says that the key to working with handicapped students is to main- tain a positive attitude. "Look for the strengths and skills the student has and what he or she can do, not what the student can't do."

It has been proven that handicapped people can be very successful in certain voca- tional areas. The handicapped student who is blind or visually impaired, for example, will not think of himself as handicapped. Barber is acquainted with a blind man who is excellent in small engine repair because of his acute sense of touch and hearing. A blind person's shop is not so very different from a non-handicapped person's except a blind person is especially careful to replace each tool in the same place every time it is used, which is a great organizational technique for any shop.

Before handicapped persons can at- tain vocational education they may have to receive vocational training. Barber re- ferred to a 1977 survey of agricultural teachers conducted by Jay Eady, Texas Education Agency Area I Supervisor for Vocational Agriculture, to point out that initial opinions on working with the handicapped or, specifically, learning disabled students. The best approach, though, is to accept these students as viable members of your classes and give them, and yourself, an opportu- nity to establish a productive learn- ing environment.

Overcome Fears Of Linking

Much of the negativism on the part of teachers who have never taught spe- cial education students is fear of the unknown. Teachers with these a nega- tive attitude, according to Barber, may have two major concerns: first, they feel inadequate in coping with handicapped students; and, second, they fear for the safety of both handicapped and non-handicapped students involved, particularly in instructional labora- tory time. Teachers who have experience should include every student and should have a lack of patience, facilities, or knowledge in the area of handicap conditions. A heightened awareness level can help al- leviate these feelings.

Better understanding of the condi- tions also calms fears for student safety. The survey showed that 80% of the teachers were concerned with safety factors. Barber thinks this fear can be overcome through exposure and experience. Teacher education pre- service and in-service training can provide information about working with the handicapped or, specifically, learning disabled students. The best approach, though, is to accept these students as viable members of your classes and give them, and yourself, an opportu- nity to establish a productive learn- ing environment.

Put Theories Into Practice

Barney McClure, vocational agriculture teacher in Grandview, Texas, gives every student an opportunity. McClure focuses on individualized in- struction. He admits that it presents a problem when mildly retarded and prospective valedictorian students are in the same class; yet, it is an unsurmountable problem. McClure has developed some effective strategies for teaching regular classes which include learning disabled students.

During lectures, McClure suggests that teachers explain concepts in several different ways with varying language levels. Some students may be able to experiment with hybridization while others still ponder over the fundamen- tals of pollination. In terms of language levels, certain students will think of "bovines" while others can only think of "cows." In short, each lesson must be adjusted to the individ- ual students.

Tests may be individualized, too. For example, you may want to give dif- ferent tests in which the language level varies while the material covered does not. For students who have difficulty reading, read the tests aloud or tape them so the student might be done in a private setting in which the student either writes or recites the answers. The spe- cial education teacher may help admin- ister tests, especially if time necessitates assistance in this. McClure has some ideas about indi- vidualizing shop projects, also. Some students who are slow in supervision than others. You may be able to tell ad- vanced students what the end product should be and then allow them to work totally on their own. If you can simply ask the advanced students to make a barbecue pit, for instance, you have more time to work with other students on fundamental welding skills. This will not really "short-change" the ad-
Readability of technical agriculture texts has been a concern of vocational agriculture teachers for years. A text which contains good technical information will be of little value if the instructor intends to use that text with 9th graders and the reading level of the text is too high.

Various formulas have been identified which estimate the reading level of materials used in schools. Despite this, most of the formulas require time commitment and expertise in their use. Unless properly used, erroneous results may be obtained. Poor quality information many times is worse than no information at all.

Forums for determining readability have recently been compiled by state and national data may be obtained which identifies such things as readability of the text, average sentence length, average word length by both letters per word and syllables per word, and printouts containing a list of words which should be defined in order to increase student comprehension.

Readability of Agriculture Books

In Oregon, a readability service is provided by the Oregon Department of Education. In utilizing this service, the Oregon State University staff wanted to determine the reading level of four commonly used technical agriculture test books: The Stockman's Handbook, Foods and Home Management, Livestock and Poultry Production, and Modern Agricultural Mechanics.

Three readability formulas were used: Fry, Dale-Chall, and Fleisch. The readability summary using these formulas for the Stockman's Handbook, Fifth Edition, 1978, is presented in Table 1.

Table 1. Readability Summary — The Stockman’s Handbook

<table>
<thead>
<tr>
<th>Formula</th>
<th>Grade</th>
<th>Reading</th>
<th>No. of Samples</th>
<th>Used in Averaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fry</td>
<td>6.0 - 15.0</td>
<td>10.0</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Dale-Chall</td>
<td>9.0 - 16.0</td>
<td>12.5</td>
<td>27</td>
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</tr>
<tr>
<td>Fleisch</td>
<td>6.0 - 17.0</td>
<td>10.9</td>
<td>27</td>
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</tbody>
</table>

The average for all three tests listed in Table 1 was an 11.1 grade level. The publisher's designated reading level was eighth grade. It must be pointed out that as the number of illustrations, charts, and pictures increase, the reading level is reduced. The average reading level of the three tests above was based solely on printed material, and no consideration is given to illustrations.

A CORRECTION TO THE ERRONEOUSLY LISTED AVERAGE


Table 2. Readability Summary — Profitable Soil Management

<table>
<thead>
<tr>
<th>Formula</th>
<th>Grade</th>
<th>Reading</th>
<th>No. of Samples</th>
<th>Used in Averaging</th>
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<tr>
<td>Fry</td>
<td>8.0 - 16.0</td>
<td>10.4</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Dale-Chall</td>
<td>9.0 - 16.0</td>
<td>13.4</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Fleisch</td>
<td>8.0 - 16.0</td>
<td>11.2</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

The average for all three tests listed in Table 2 above was 11.6 grade level. The publisher's designated reading level was twelfth grade.

The average for all three tests listed in Table 2 above was 11.6 grade level. The publisher's designated reading level was twelfth grade. Again, all tests were on line only. No attempt was made to reduce the reading score by the number of charts, illustrations, and for pictures.

The readability summary presented in Table 3 is for Livestock and Poultry Production, Fourth Edition, 1975.

Table 3. Readability Summary — Livestock and Poultry Production

<table>
<thead>
<tr>
<th>Formula</th>
<th>Grade</th>
<th>Reading</th>
<th>No. of Samples</th>
<th>Used in Averaging</th>
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<tbody>
<tr>
<td>Fry</td>
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</tr>
<tr>
<td>Dale-Chall</td>
<td>8.0 - 17.0</td>
<td>11.5</td>
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</tr>
<tr>
<td>Fleisch</td>
<td>6.0 - 17.0</td>
<td>9.4</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

The average for all three tests listed in Table 3 above was 10.0 grade level on written material only. The publisher's designated reading level was twelfth grade.

Table 4 below contains the readability data for Modern Agricultural Mechanics, 1977.

Table 4. Readability Summary — Modern Agricultural Mechanics

<table>
<thead>
<tr>
<th>Formula</th>
<th>Grade</th>
<th>Reading</th>
<th>No. of Samples</th>
<th>Used in Averaging</th>
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<tbody>
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<td>Fry</td>
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<td>10.6</td>
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<td>Fleisch</td>
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The definitions are restricted to engineering applications, "track" and "track shoe" are used with foot races, "stock car" is not defined as a racing vehicle, and "press box" is not defined as part of a sports stadium, these terms have other meanings as defined in the dictionary.


Reviewed by Lee Cole, Editor's Note: Dr. Cole is a member of the faculty in the Vocational Technical Education Division, School of Education, Oregon State University.


Table 1. Readability Summary — The Stockman’s Handbook

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THE AGRICULTURAL EDUCATION MAGAZINE

BOOK REVIEW

Dictionaries of agricultural and food engineering are important tools for those working in these fields and are used by farmers, food processors, and those involved in the food industry. These dictionaries provide definitions of terms used in agriculture and food engineering. The purpose of this book is to provide a comprehensive source of information on these terms.

A CORRECTION TO THE ERRONEOUSLY LISTED AVERAGE

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THI AGRICULTURAL EDUCATION MAGAZINE

BOOK REVIEW
Should Vo-Ag Become A Science?

By Winston Have
Mr. Have is a teacher at Boca Raton High School in Boca Raton, Florida.

based on student responses, there is a valid question for educational admin-
istrators and planners to address. In my college training in agriculture, I have been taught to understand that agriculture is a science. When one com-
pletes the Bachelor of Science Degree in Agriculture, he/she has courses in chemistry, physics, mathematics, biology, histology, bacteriology, plant and animal pathology, and entomology, to name a few.

High school agriculture instruction should provide the nucleus for students going on to college as well as prepare them for a career. If teachers had not been taught agriculture in the scientific perspective, then they would be unable to cope with the rigorous of the sciences at the college level. The science concept in teaching agriculture embraces five of the major sciences: physics, chemistry, mathematics, botany, and biology.

Relationship of the Sciences to Agriculture

Some of the relationships between the sciences and agriculture are explained here.

Mathematics: Mathematics becomes very important to students in agriculture because they deal with farm management, landscaping, fertilizer analysis and usage, and insect control. An example of the latter is when students have to construct different geometrical types of plots.

Physics: Physics becomes useful when students are being taught soil conservation.

Chemistry: Chemistry is important in dealing with the nutrient elements, fertilizer mixtures, soil structure, pH tests, and plant and animal growth and development.

Botany: Botany plays a great part in plant genetics and identification.

Biologics: Biology is the study of life which consists of all living things and those that once lived. Plant biology constitutes a great part of any agriculture science course.

My Opinion

If instruction in agriculture is to take its rightful place in the curriculum, it should be regarded as a science and not as a vocational subject for students who cannot cope with the sciences. This is not just at Boca Raton High School, but the rest of the country where the elective concept is being practiced. If students are to be properly educated in agriculture, parents and counselors need to be oriented concerning the goals of the agricultural industry. Parents and counselors play an important part in directing and formalizing goals of students. There is a great need for them to have the proper perspective. It if this is not done, the stigma that is attached to agriculture will never be erased.

Many vocational agriculture stu-
dents have a strong interest in power mechanics. However, some students lose interest when they get their hands in the greasy stuff. Because of this, certain interest, students may be taught the parts of machines and the engines that are studying small engines and farm power. Machinery dealers and parts houses need people who can work as parts clerks.

With Small Engines

The parts training course while teaching small engines. The instruction might involve giving one class period to the operation of parts departments and how to use the service manual to locate and determine parts numbers and costs. A job sheet asking the students to identify, determine parts num-
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As a part of their training, the students are also introduced to the field of computer science. The process of determining parts num-
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Why Have A Local Stock Show?

One of the basic parts of vocational agriculture is the supervised occupational program. Within SOSI, many students have live stock projects. Aside from the many advantages of the programs of this type, there is also the area of public relations. One of the most popular ways to gain publicity and create public awareness of SOE programs is through fair and stock shows. With the high cost of travel, it is becoming increasingly difficult to participate in livestock shows outside the state, especially when students can afford trips to exhibit their live stock projects. Few parents and adults in the community are able to participate in this aspect of the program. One answer to the problem is to conduct a livestock show in the local community.

The local stock show provides students with an opportunity to exhibit livestock projects in a manner that allows for the involvement of adults in the local community. This provides a good public relations tool since the community can see firsthand what students are doing as part of the vocational agriculture program. By having the show right in the community, which at Rio Vista is on the school grounds, people can attend without a long, costly drive. Many times, parents in the community are not aware of the livestock projects of students unless they are shown at the county or vocational agriculture or live next door to an FFA member.

Adults can also be involved in conducting the local show and actually work with the students rather than having to watch from a seat somewhere in the grandstands. Having livestock on display locally also provides an excellent opportunity for school administration and members of the school faculty to see what you are doing in your program. Quite often, the only thing that other teachers know about the projects of students is that livestock shows cause students to miss class.

Also, the quality of the livestock in SOE programs can be improved through the use of a local show. When students compete with their fellow chapter members in front of family and friends, they tend to want to make a good showing. In some communities, students actually place more importance on their local show than any other show. A healthy competitiveness can be developed—an asset to the FFA chapter. At Rio Vista, all students who have livestock are allowed to exhibit their animals regardless of quality. Having the experience of competing tends to motivate many students to improve their SOE programs and work harder.

Another important factor is that by having a show in the community, students have the opportunity to improve their grades and actually see what they can look forward to when they become old enough to be in vo-ag.

The local livestock show can become valuable to students who plan to show at other livestock shows. At Rio Vista, the administration has pointed out to students those things that could improve their showmanship and to encourage improvements. This extra help from the judges can prevent the reoccurrence of costly errors at a future date. Students may take advice from a judge more seriously than they would from their own vocational agriculture teacher.

Conducting a local livestock show can tend to be extra work for the teacher. Most vo-ag teachers already have more than enough activities going to keep them busy and may feel that this would be just one more chore. If the teacher takes advantage of those adults in the community who are interested in the program, the work required by the teacher can be kept to a minimum.

In this way, parents and adults in the community can be made more aware of the student's activities in the vocational agriculture program while the students gain from the experience of exhibiting livestock.

The amount of travel expense can be minimized while the community is made more aware of the student's activities in the vocational agriculture program.

The amount of support that can be provided to students by the instructional program required the addition of proficiency award programs. These programs are a valuable tool in helping students to become established in farming. Through this effort, Crop Production, Livestock Production (changed to Diversified Farm Management in 1975), Poultry Production, and Forest Management Programs were added in 1966.

The Ornamental Horticulture program, which was first initiated in 1966, expanded to four programs in 1977. In 1979, the ornamental horticulture class was added to the Ornamental Horticulture program. In 1980, the Ornamental Horticulture program was expanded into two programs: Floriculture and Ornamental_Horticulture.

By the mid 1970's, specialization had begun to play a more important role in agriculture. To assist FFA members who were involved in single-species livestock programs, proficiency award areas were made available in Sheep Production, Beet Production, and Swine Production in 1974. In 1975, the FFA members with horse-related supervised experience programs were provided a recognition program with the addition of the Horse Proficiency Program.

The Proficiency Award Program in 1980 continues to reward FFA members for their advancement in knowledge and skills needed to enter an agricultural career. The major change that has taken place in the proficiency award programs is that FFA members are now recognized for knowledge and skills learned in preparing for all phases of farming rather than just farming.

Participation

FFA member participation in the Proficiency Award Program varies from year to year and among the different chapters. In 1979, the number of FFA members participating in each of the individual 22 programs ranged from a low of 347 to a high of 2766 in different chapters.

Up until 1969, the FFA was a national organization for boys studying vocational agriculture in public secondary school. Participation in the FFA was opened to girls in 1969. This increase in enrollment and participation in FFA activities is vividly reflected in the steadily increasing number of female FFA members.

The first national FFA Proficiency Award Program was established in 1967. In 1972, the FFA Proficiency Award Program was expanded into two programs: Farm and Drill Management.

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ILLINOIS

Loyalty to the profession was recognized at the 1980 Illinois Association Vocational Agriculture Teachers Conference when two distinguished associate members were recognized for 45 years of professional membership. Recognized for this achievement were John Matthews (left) and Harold Witt (right); each served as Head of Vocational Agriculture Service, University of Illinois, and is now retired. With them is Richard Watson (center), 1979-80 IAVAT president.

(Photograph courtesy of John H. Fedderson, Associate Executive Secretary, Illinois Association of Vocational Agriculture Teachers.)

NEW MEXICO

New Mexico vocational agriculture teachers are shown receiving information on the purification of water from uranium mines in Grants, New Mexico. Teachers received two hours credit from New Mexico State University for a two-week traveling seminar which visited vocational agriculture departments in New Mexico, Arizona, and Colorado.

(Photograph courtesy of Rosco Vaughn, State Supervisor, New Mexico.)