

Administrators' Attitudes, Policies, and Procedures Regarding Safety in Vocational Education Laboratories

Joe A. Gilem, Associate Professor
The Ohio State University
Greg Miller, Assistant Professor
Iowa State University

"A positive attitude toward skill development is a prerequisite to the safety of an individual. The teacher is responsible for promoting desirable attitudes that assist pupils in developing a proper respect for safety regulations" (Kigin, 1983, p. 93). Similarly, Harper and McCracken (1984) recommended that "teachers should work towards demonstrating a positive safety attitude, a sound knowledge of safety, and maintain school facilities in safe working conditions" (p. 10).

The primary responsibility for providing safety instruction and a safe working environment belongs to the teacher (McMahon, 1975), but can teachers ensure a safe working environment without support from school administrators?

Bear (1980) wrote that "safety programs will happen when the administrator supports them and will cease when the interest and attention has been eliminated or become lax" (p. 76). Additionally, McMahon (1975) wrote that ". . . the single most effective force behind the development of a viable, overall safety program is the support of an administrator who accepts its importance and by his own attitude encourages a safety consciousness throughout his administrative unit" (p. 18). Even so, teachers have expressed the opinion that administrators give only lip service to school safety issues (Bear, 1980).

Some researchers (Bennett, 1983; Petty, 1988) have sought to determine if the perceptions of vocational program safety needs differ between school administrators and vocational teachers, but a review of the literature yielded no studies that focused specifically on administrators. If one can hypothesize that administrative support is essential to ensuring a safe environment in vocational laboratories, then it becomes important to determine administrator attitudes toward safety in vocational laboratories. A need exists to determine what policies and procedures are utilized by administrators for the purpose of ensuring a safe and healthful school environment.

Purpose and Objectives

The purpose of this study was to investigate safety attitudes and policies and procedures of administrators in comprehensive high schools with agricultural education programs. The research objectives were to:

Describe the safety attitudes of administrators in comprehensive high schools with agricultural education programs.

Describe selected safety policies of administrators in comprehensive high schools with agricultural education programs.

Describe selected procedures administrators follow in comprehensive high schools with agricultural education programs to insure safety in vocational programs.

Procedures

Population and Sample

The population for this descriptive survey included all principals of comprehensive high schools with agricultural education programs in Ohio (N=260). The Ohio Directory of Agricultural Education was utilized to develop the list of comprehensive high schools with agricultural education programs. Based upon Krejcie and Morgan's (1970) formula for a 5 percent margin of error, a random sample of 155 schools was drawn.

Instrumentation

The questionnaire utilized in this study was developed by the researchers. The questionnaire consisted of three parts including the administrator's safety attitude, policies, and facilities and inspection. Content and face validity were established by a panel of experts consisting of faculty and graduate students in the departments of Agricultural Education and Agricultural Engineering at The Ohio State University. Cronbach's alpha was used to assess the reliability of part one (The Administrators' Safety Attitude) of the questionnaire. The reliability coefficient was .73. Since items in parts two and three requested factual responses, reliability was not estimated.

Data Collection

The questionnaire was sent to all principals of comprehensive high schools with agricultural education programs included in the sample. After a follow-up of the nonrespondents, a response rate of 83 percent was realized. Nonresponse error was controlled by comparing early to late respondents (Miller & Smith, 1983). No significant differences were found between early and late respondents. Although each questionnaire package was addressed to the principal, the researchers determined that some of the respondents were vocational directors. These respondents were referred to as administrators.

Analysis of Data

All data were analyzed using the Statistical Package for the Social Sciences, Personal Computer Version (SPSS/PC+). Appropriate statistical procedures for description (frequencies, percents, means, and standard deviations) were used.

Results

Administrators were asked to indicate their level of agreement with 15 items designed to measure their attitude towards safety in vocational education. Response categories for this Likert type scale ranged from (1) strongly disagree to (5) strongly agree. The administrators' mean safety attitude score was 4.39 with a standard deviation of .31 (Table 1.)

Data in Table 1 further reveal that slightly more than 98 percent (126) of the administrators agreed or strongly agreed that safety was one of their top priorities. However, slightly more than three percent (4) of the administrators were undecided, agreed, or strongly agreed with the following statement; "It is all right if teachers operate equipment in an unsafe manner when students are not present". Similarly, approximately 11 percent (14) of the administrators were undecided or agreed with the following statement: "I sometimes use equipment in the vocational laboratory in an unsafe manner". Most of the statements elicited consistently positive responses from the administrators. Administrators were less consistent in their responses to statements related to the delegation of responsibilities for safety and expenses for staff development in safety.

Table 1. Administrators' Attitude Toward Safety in Vocational Education

Item	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
Safety is one of my top priorities	0 ^a 0.0 ^b	0 0.0	2 1.6	30 23.4	96 75.0
I insist that vocational teachers model safe behavior	0 0.0	0 0.0	1 0.8	43 33.6	84 65.6
I communicate to students and teachers a strong commitment to safety	0 0.0	0 0.0	2 1.6	66 51.6	60 46.9
I sometimes use equipment in the vocational laboratory in an unsafe manner	69 55.2	42 33.6	10 8.0	4 3.2	0 0.0
It is all right if teachers operate equipment in an unsafe manner as long as students are not present	89 69.5	35 27.3	1 0.8	1 0.8	2 1.6
Safety should be an integral part of the instructional program in vocational education	1 0.8	0 0.0	0 0.0	17 13.3	110 85.9
Maintaining a safe environment for vocational education students is an important part of my job	0 0.0	1 0.8	2 1.6	45 35.4	79 62.2
Administrators should completely delegate responsibility for safety to teachers	27 21.1	61 47.7	6 4.7	29 22.7	5 3.9
Administrators should be familiar with safety standards for vocational education programs	0 0.0	3 2.3	2 1.6	86 67.2	37 28.9
Students posing a continual threat to their own safety should remain in the vocational laboratory	72 56.3	46 35.9	3 2.3	3 2.3	4 3.1

Table 1 continued.

Item	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Students posing a threat to the safety of other students should be removed from the vocational laboratory	2 1.6	6 4.7	1 0.8	41 32.0	78 60.9
Vocational teachers should periodically update their knowledge of current safety standards	0 0.0	0 0.0	0 0.0	61 47.7	67 52.3
Vocational teachers needing to upgrade their safety knowledge should do so at their own expense	17 13.4	69 54.3	27 21.3	9 7.1	5 3.9
Safety needs should be given priority in the school budget	0 0.0	3 2.4	11 8.7	78 61.4	35 27.6
Equipment that is not in safe operating condition must <u>not</u> be used until it has properly been repaired	0 0.0	0 0.0	0 0.0	29 22.7	99 77.3

^aMean^bPercent

Mean = 4.39 Std. Dev. = .31

Note. Items 4, 5, 8, 10, and 13 were considered negative

Table 2. Administrators' Perceptions of Their Own Competence in Determining What Constitutes a Safe Vocational Laboratory

Perception	n	%
Competent	75	58.6
Not Competent	33	41.4

Data in Table 2 indicate that 58.6 percent (75) of the administrators surveyed considered themselves to be competent in determining whether or not vocational laboratories were safe while 41.1 percent (33) of the administrators perceived themselves as not being competent in this area.

Table 3. Administrator Perceptions Regarding the Ability of Vocational Teachers to Provide Instruction in Safety

Extent of Preparedness	n	%
Very well prepared	94	74.0
Moderately prepared	29	22.8
Somewhat prepared	3	2.4
Poorly prepared	1	0.8

Administrator perceptions regarding the ability of vocational teachers in their school to provide instruction in safety are presented in Table 3. Administrators in 74 percent (94) of the schools perceived vocational teachers as being very well prepared to provide instruction in safety while another 22.8 percent (29) perceived vocational teachers to be moderately well prepared. Only .8 percent (1) of the administrators perceived vocational teachers in their schools to be poorly prepared to provide safety instruction.

Table 4. Whether or Not Administrators Inspect Vocational Laboratories for Safety

Inspection	n	%
Yes	100	78.7
No	25	19.7

Table 5. Sources of Information Utilized by Administrators in Making Safety Inspections

Source	n	%
Teacher educators	105	82.3
State Department of Education	82	66.1
Ohio Department of Safety	67	54.0
Other Sources	38	30.9

Data in Tables 4 and 5 show the number of administrators who inspect vocational laboratories for safety and sources of information used for these inspections. Slightly more than 78 percent (100) of the administrators personally inspect vocational laboratories (Table 4), and most (82.3%) administrators obtain safety information from teacher educators (Table 5). In addition, more than half of the administrators utilize information provided by the State Department of Education and the Ohio Department of Safety.

Administrator responses regarding the responsibility for repair and maintenance of equipment in vocational laboratories are presented in Table 6. Teachers were responsible for repair and maintenance of equipment in 92 percent (115) of the schools. Janitors and outside contractors were responsible for repair and maintenance of equipment in 62.1 percent (77) and 63.7 percent (79) of the schools respectively. Other persons performed repair and maintenance on equipment in 30.6 percent (37) of the schools. When asked to specifically name other persons responsible for repair and maintenance of equipment, administrators in 26 percent (33) of the schools listed school maintenance personnel.

Table 6. Persons Responsible for Repairing and Maintaining Equipment in Vocational Laboratories, As Reported by Administrators

Person Responsible	n	%
Teachers	115	92.0
Janitors	77	62.1
Outside Contractors	79	63.7
Other	37	30.6

Twenty-nine percent (37) of the administrators indicated that vocational teachers were required to have training in first aid (Table 7). Data in Table 7 further shows that 82.3 percent (102) of the administrators surveyed maintain written policies on safety. Administrators in 79.2 percent (99) of the schools indicated that handicapped students participate in vocational laboratory instruction, but only 68.4 percent (67) of the administrators indicated that special provisions were made for the safety of handicapped students (Table 7).

Table 7. Existence of Selected Safety Policies as Reported by School Administrators

Policy	n	%
Required teacher training in first aid	37	29.1
School maintains written safety policies	102	82.3
Handicapped students participate in vocational laboratory instruction	99	79.2
Special provisions made for the safety of handicapped students	67	68.4

Conclusions and/or Recommendations

Safety is important to administrators, and they overwhelmingly agree that it should be an integral part of the instructional program in vocational education. Teachers should be aware of the expectations that administrators have regarding safety in vocational education. It is recommended that the results of this study be shared with preservice and inservice teachers so that they might understand the importance of safety to school administrators.

Most administrators inspect vocational education facilities, and 82.3 percent depend upon the knowledge and expertise of teacher educators in making safety inspections of vocational laboratories. Additionally, most of the administrators felt competent in determining what constitutes a safe vocational laboratory. Teacher educators in vocational programs should disseminate current safety materials to high school administrators, and provide workshops for administrators interested in upgrading their safety knowledge.

Administrators expect vocational teachers to repair and maintain equipment in vocational laboratories. It is recommended that preservice teacher preparation programs ensure that prospective teachers have the knowledge and skill needed to repair and maintain equipment in vocational laboratories. Staff development activities should be planned for vocational teachers needing to upgrade their safety knowledge and equipment maintenance skills.

Administrators in most schools report that handicapped students are assigned to vocational classes. While most administrators reported that special provisions were made for the handicapped students, 31.6 percent indicated that no such provisions were made. Both administrators and teachers must be aware of the special needs of handicapped students enrolled in vocational programs. Efforts should be made to insure that educators are knowledgeable of the special needs of handicapped students and are capable to dealing with them in vocational laboratory settings.

References

- Bear, W.F., & Hoerner, T.A. (1980). Planning, organizing, and teaching agricultural mechanics. St. Paul: Hobar.
- Bennett, L.E. (1983). Safety program needs of Missouri vocational agriculture departments as identified by secondary school administrators and teachers of vocational agriculture. Dissertation Abstracts International, 44/10A, p. 2957 (Publication No. AAC8401121).
- Harper, J.G., & McCracken, J.D. (1984). Analysis of selected variables influencing safety attitudes of agricultural mechanics students. (Summary of Research) Columbus: The Ohio State University, Department of Agricultural Education.
- Kigin, D.J. (1983). Teacher liability in school-shop accidents. Ann Arbor; Prakken.
- Krejcie, R.V., & Morgan, D.W. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30, 607-610.
- McMahon, G. (1975). Organizing and effective safety program. In M. E. Strong (Ed.). Accident prevention manual for training programs. (pp. 17-28). American Technical Society.
- Miller, L., & Smith, K. (1983). Handling non-response issues. Journal of Extension, 21, (5), 45-50.
- Petty, G.C., & Pierce, R. (1988). Safety in the industrial arts classroom as perceived by industrial arts teachers and administrators. Paper Presented at the American Vocational Association Convention. St. Louis, MO.