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Student Management Practices in the Secondary School Shops of Utah

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STUDENT MANAGEMENT PRACTICES IN THE SECONDARY SCHOOL SHOPS OF UTAH

by

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U. Sterling Cheney

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INTRODUCTION

Background

It is wrong to think that industrial education had its beginning recently. Merely because industry has made revolutionary changes and advancements during recent years does not mean that industrial education has not been in existence for a long time. Industrial education in some form is probably as old as the human race.

In the development of industrial education it is interesting to note that both anciently and during modern times the emphasis has been placed on the value of handwork. The cave man's life depended upon his skill and ability to make and use the various types of primitive tools. We still place great importance on our knowledge of handwork.

The Jews 2000 B.C. were among the first to recognize the importance of handwork to the extent that they did something about formally teaching it. They provided time so that the fathers could teach their boys a trade during part of the day. To make a boy skillful in a trade insured his becoming a useful member of society. Speaking in connection with the Jews, Bennett says:

> Evidence seems to be lacking that the Jews appreciated as do modern educators the intimate relationship between training in manual skill and intellectual development, but they did in a more or less general way recognize that a boy who worked with his hands was better than a boy who did not, and that study in school and labor at a manual occupation go well together, and are effective in producing useful members of society.[1]

Continuing on through the years we discover that the early Christian monks were converted to the principles of manual labor. This

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1. Charles A. Bennett, History of Manual and Industrial Education up to 1870, Peoria, Illinois: Manual Arts Press, 1926.

condition is not difficult to understand when one recalls that they had the example of Jesus, the carpenter, before them.

During the time of the development of the printing press and the discovery of America, two of the fundamental ideas of modern industrial education were established. According to Bennett, "The first of these is that sense impressions are the basis of thought, and, consequently, of knowledge. The second is the related idea of 'learning by doing.'"[2]

Comenius (1592-1670) believed that education was essentially a matter of the development of the native powers of the child. Modern pedagogy had its beginnings when he made the first scientific study of the child. As a result he has been called the "father of modern pedagogy." Comenius advocated industrial education in the schools which was a striking feature of his "Great Didactic."

Rousseau (1712-1788) urged systematic instruction and training in some form of manual labor. It was his desire and aim to awake in the pupil a sense of personal dignity and worth which is experienced only by those whose labor entitles them to rank as useful members of society. In speaking concerning the values of industrial training Rousseau says:

> It ought to be plain, how with the habitual exercise of the body and the labor of the hands, I insensibly give to my pupil a taste for reflection and meditation in order to counter-balance in him the indolence which would result from his indifference for the judgment of men and from the repose of his passions. He must work as a peasant and think as a philosopher in order not to be as lazy as a savage.[3]

It is apparent from the above quotation that Rousseau values handwork as an aid to intellectual education, and it shows that he vigorously advocated industrial training.

Among the most influential of those who applied naturalistic

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2. Ibid., 1926
3. Ibid.

principles in actual school education was Pestalozzi (1746-1827). To him education was essentially a matter of the development of the native powers of the child a concept which was the same as taught by Rousseau.

Much could be said concerning the contributions to industrial education made by Pestalozzi. He had a great desire to improve the conditions found in education for the poor children in Switzerland. As a result of this he made many contributions to education. He was especially successful in the use of objects and manual labor in teaching the traditional school subjects.

The first reference to a form of a personnel organization came from Heinrich Gottlieb Heuisinger, in his work entitled "Die Familie Wertheim" (Gotha 1798-1809), Vol. I, p. 46-50, wherein, according to his plan, children were appointed to definite duties or offices.[4]

Calvin Milton Woodward (1837-1914) was a great champion of manual training. He was dean of the polytechnic faculty of Washington University, St. Louis. Professor Woodward discovered to his surprise that his students did not know how to use the basic hand tools in woodworking. This presented a new challenge to him and instead of side stepping the issue he took steps to teach them how to use hand tools. With this small beginning he began teaching shop work without any direct trade or industrial motive.

Dr. Runkel, who was president of the Massachusetts Institute of Technology, had also become conscious of a problem similar to the one which confronted Dr. Woodward, that is, the inability of students to work with hand tools. The "Russian System of Tool Instruction" that was on display at the Centennial Exposition in Philadelphia was seen by

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4. Lewis Flint Anderson, History of Manual and Industrial Education, New York & London: D. Appleton and Company, 1926, p. 251.

Runkel and Woodword, and they were very much impressed by it. Dr. Runkel had this to say about it:

> At Philadelphia, in 1876, almost the first thing I saw was a small case containing three series of models---one of chipping and filing, one of forging, and one of machine tool work. I saw at once that they were not parts of machines, but simple graded models for teaching the manipulations in those arts. In an instant, the problem I had been seeking to solve was clear to my mind: a plain distinction between a mechanic art and its application in some special trade became apparent.[5]

The discovery of the "Russian System of Tool Instruction" was a significant event in the development of American shop work.

The Sloyd system had its beginning in the homes of northern Europe and was the first system of manual instruction to receive world wide recognition.

One of the major characteristics of the educational Sloyd as developed by Otto Salomon (1849-1907) was the making of useful objects. This system was a result of the home Sloyd in its earlier forms, when they made things at the home fireside where they were used either in the home or on the farm. In a period that followed the things that were made were sold. All the objects made in educational Sloyd were to be useful in the home.

During the last few years of the 19th century there was considerable confusion in regard to education in general. Mays says: "In fact, educational thought was so disturbed during close of the century that it would have been remarkable if any type of school work could have survived unchanged."[6]

Because of the shortage of skilled labor there began to be renewed

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5. Charles A. Bennett, History of Manual and Industrial Education from 1870 to 1917, Peoria, Illinois: Manual Arts Press, 1937.
6. Arthur B. Mays, The Determining Factors in the Evolution of the Industrial Arts in America, Milwaukee, Wisconsin: The Bruce Publishing Company, (Indus. Arts Brochures #1).

pressure for vocational training. The leaders of manual and industrial arts began to encourage the vocational aspects of their work, and this is the point where the pupil personnel organization received great impetus. Crawshaw says in this connection:

> The emphasis, therefore, which is being placed upon manual training today is this: (1) give the shop and drawing problems as much thought now as they have been given in the past to make them show the significance of the abstract school material. (2) Take account of all the discoveries of child study in coordinating properly the motor and mental elements in the educative process. (3) Vitalize all school work by strongly socializing it. Do all these things, which manual training has sought to do in the past, but do one thing more to take it out of what some have called the dilettante stage of development--- make it <u>strongly industrial</u>. That is, give every shop process an industrial rating to evaluate the child's mind and process in the school shop. Make the school process as closely as possible a duplicate of the commercial values, mental, moral and all the rest, which the manual training of the past has claimed.[7]

"The National Society for the Promotion of Industrial Education" was an organization set up with a chief goal to secure an adequate federal law providing national aid for industrial education. It is doubtful that the Smith-Hughes Act would have been passed as early as 1917 if this society had not taken a leading part in its promotion. This bill is probably one of the most important educational bills ever passed in this country.

One of the main characteristics of industrial arts education today is the student personnel organization. It is quite generally used to help facilitate the operation of the school shop and to develop qualities of leadership among the students.

Study was made in an effort to determine the growth and development of student management practices. After considerable research it

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7. Fred D. Crawshaw, <u>Manual Arts for Vocational Ends</u>, Peoria, Illinois: Manual Arts Press, 1912.

was decided that this information was not available.

It is interesting to pause a moment and reflect the progress that has taken place in industrial arts education from ancient times to the present. There is also every reason to believe that a bright future full of satisfaction and promise lies ahead.

Importance of the Problem

Educators in the field of industrial arts have for years advocated student participation in some of the selected management duties of the shop program. Vaughn and Mays[8] have stated that such training derived from participation in these assignments provided many educational experiences to the shop student. Student participation in managerial duties of the shop has gone far in developing leadership, responsibility, co-operation, appreciation and recognition of organization. It also has aided in alleviating the teacher of the detailed non-technical duties, allowing more time to provide the needed instruction that is required in the present day shops.

Surveys of the actual extent of student participation in school shop organizations are limited at the present time. It is presumed that some shops are well organized, while others may entirely ignore the values of student participation, or of the help provided by a student organization.

Statement of the problem. It is the purpose of this study to determine the extent of student management practices now in use in the state of Utah. The study is limited to: (1) The secondary school shops in the state of Utah, (2) From grades seven through twelve in these schools, and (3) To shop courses in woodwork, general metal, electricity,

8. Vaughn and Mays, Content and Method of Industrial Arts, New York: Century Company, 1924, p. 254.

mechanical drafting and crafts.

Importance of study. The values of student participation in shop management is the crux of this problem and is one of the most significant procedures of modern education. This survey of student participation in the organization and control of the shop as it affects the field of industrial arts education on the secondary school level includes the study of: (1) The extent of student management practices in relation to the modern philosophy of education; (2) The extent to which teachers think student management practices should be used; (3) These practices to reveal their value in the educational program of the modern school; (4) The extent of assistance actually given to the teacher who uses student manager; and (5) Whether or not the principles of democracy are attained by the use of student control within the shop organization.

The scope of the study. The scope of the study includes the management practices prevalent at the present time in the secondary school shops of the state of Utah, the number of student managers used regularly, and those that are assigned when the needed occasion arises. Investigation of the methods and techniques used in preparing, supervising and administering the student management organization, as well as the specific duties of each student manager was made. Special attention was given the opinions of shop teachers as to the benefits that are derived from a program of student management.

Procedure of the Study

The important steps taken in this survey were: (1) To obtain as much data as possible pertaining to the specific problem; (2) To check the collected data for validity and reliability; (3) To tabulate this data in such a way that it might be interpreted effectively. The method

and procedure used was selected to obtain such data in the best way consistent with time available and the extent of the problem.

Procedure. An investigation was made of the methods of educational research. Each method was studied in relation to its application to this problem. It was decided that the best possible solution to this problem could be obtained by using the survey method with the questionnaire technique.[9] A questionnaire was formed, using simple, short questions of a check list type with "yes" and "no" answers; and those that ask for numerical information. Space was also provided following each set of questions covering a specific unit of the survey for written comment concerning any of the preceding questions.

A letter of transmittal was formed stating the purpose of the survey and its importance. A list of all the secondary industrial arts teachers was obtained and the questionnaires, together with letters of transmittal, and self-addressed, stamped envelopes for the returns were mailed on November 15, 1953. A copy of the questionnaire and the letter of transmittal can be found in the appendix. The returns were tabulated on an enlarged form of the questionnaire, and the scores of each shop were recorded.

Definition of Terms

Industrial Arts: Those phases of general education which deal with industry, its organization, materials, occupations, processes, and products, and with the problems resulting from the industrial and technological nature of society.[10]

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9. Carter V. Good, A. S. Barr, and Douglass E. Scates, The Methodology of Educational Research, New York: Appleton Century Company, 1941, p. 325.
10. Gordon O. Wilber, Industrial Arts in General, Scranton, Pennsylvania International Textbook Company, 1948, p. 2.

Student: Any pupil enrolled in a shop class in grades seven through twelve in the state of Utah.

Shop: The type of units of industrial arts, such as: woodwork, general metal, electricity, mechanical drafting and crafts.

Organization: The personnel management and control wherein the student participates in the shop.

Management Practices: The assigning of a student to a supervisory assistant position, or an individual task in the organization of the shop. A student acting in the capacity of an assistant who cares for any of the non-technical duties of the shop.

Job Assignments: The list of positions that may be held by student managers, including: superintendent, supervisor of clean-up, tool man, finishing room attendant, machine man, bench man, attendance checker, supply checker, safety foreman and librarian.

These duties are general in nature and may not be identical with those used in all shops as some may have a president and secretary in the place of a superintendent and attendance checker. The title of the positions may be different, but the duties generally remain the same.

A REVIEW OF RELATED LITERATURE

Investigation into the related literature of industrial arts education revealed that most of the prominent men in the field advocate the use of students as assistants. Research was made in both general education and industrial education fields. The general education survey provided a basis for general aims and procedures. The other survey secured the philosophy of the leaders in the field of industrial arts in regards to student management.

General Education Survey

General education. One of the basic principles put forth by Bollinger is that every experience of the school child has some educational value.[1] A proper introduction into the problem of student government may be that of Bode:

> The school must be transformed into a place where pupils must go, not primarily to acquire knowledge but to carry on a way of life. That is, the school is to be regarded first of all, an ideal community in which pupils get practice in co-operation, in self government, and in application of intelligence to difficulties or problems as they may arise.[2]

Bolton emphasized as early as 1910 the importance of discovering early the peculiar powers of an individual and the continuous training in the development in these powers.[3] As the junior high school is exploratory in its shops, it may also be exploratory in the student management practices, and be used to discover leadership qualities in

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1. Ellroy W. Bollinger, The Theory and Practice of Industrial Arts Education, New York: The Hamilton Company, 1937, p. 1.
2. Boyd H. Bode, The Education Frontier, New York: The Century Company, 1933, p. 19.
3. Frederick E. Bolton, Principles in Education, New York: Charles Scribner's Sons, 1910, p. 318.

its students. Bawden and Melbo maintain that student government is beneficial in the development of social consciousness, and the sense of responsibility which accompanies this social consciousness should be developed by continued practice.[4] Jones states that student government is the activity most frequently mentioned in connection with leadership selection and training.[5] Student government may then be considered an essential part of our educational program even in the elementary school and especially so if we are to develop social beings to live within and maintain our democratic way of life.[6] The important aim is to have the students themselves desire proper conduct, and to see to it through proper self-government and leadership that these desires are met.

Industrial Arts Survey

General Philosophy. A survey of the literature in the industrial arts field revealed similar trends of thought with the general education leaders. Vaughn and Mays point out the governing of a group is not a one-man affair, rather it is a cooperative enterprise, and the teacher who ignores this fact will have cause to regret it.[7] The modern philosophy of the shop teacher in regards to student management may closely follow the thoughts of Schad:

> A well managed shop is one in which the students take a dynamic part in the administration of the routine work and thus permit the instructor to spend his time teaching, guiding and directing the work of the class. In a well managed shop it is not necessary for the instructor to spend class time issuing materials, job sheets, textbooks, special tools, keeping records, checking tools, inspecting

4. A. O. Bawden and Irving R. Melbo, Social Psychology of Education, First Edition, New York: McGraw-Hill Book Company, 1937, p. 150.
5. Arthur J. Jones, The Education of Youth for Leadership, First Edition, New York: McGraw-Hill Book Company, 1938, p. 200.
6. Bawden & Melbo, op. cit., p. 254.
7. Samuel J. Vaughn and A. B. Mays, Content and Method of Industrial Arts, New York: The Century Company, 1924, p. 234.

> shop equipment, and the like. This work should be and is done by the students because classes are increasing in size. The unit shops are introducing other activities, the general shop with four or five activities has objectives which cover a broader social outlook, trying to inculcate in its students the attitudes of responsibility, cooperation, neatness, orderliness, and cleanliness. For these reasons school shop management is a vital factor of teaching efficiency.[8]

Providing a broader activity program. The question is whether or not student management practices would provide a broader activity program in the industrial arts. Payne maintains that the education of a student is relative to the amount he shares or participates in an activity, acquiring skill, appreciation and knowledge.[9] Bollinger would provide the maximum opportunity for student participation in all the activities of a subject, such as the selection, planning, designing, producing, evaluating of each activity and in a limited degree, participation in the administration of the shop.[10] He further states that these student management duties can be considered valuable educational experiences.[11]

Bawden refers to one of the basic principles of our new philosophy of education, that of developing the individual by subjecting him to a variety of experiences.[12] He would improve the organization of the shop class by giving the student more responsibilities for his own self-control and self-direction.[13] Pickens viewing the problem as a supervisor recommended that shop instructors should plan efficient class personnel organization to allow students to participate in valuable

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8. Joseph A. Schad, "Shop Management and Control," Industrial Arts and Vocational Education, 27:121, March 1938.
9. Arthur F. Payne, Methods of Teaching Industrial Subjects, New York: McGraw-Hill Book Company, 1926, p. 63.
10. Bollinger, op. cit., p. 73.
11. Ibid., p. 103.
12. Wm. T. Bawden, "Organization in the School Shop," Industrial Educational Magazine, March 1934, p. 94.
13. Ibid., p. 93.

vocational and educational experiences by assuming management responsibilities.[14]

Social and psychological development of the child. Just what is the contribution student managers give to the social and psychological development of the student? Newkirk and Stoddard claim that there is a definite social gain to the boy acting in the capacity of student manager because it gives him a sense of responsibility for his classmates.[15] Radford numbers among the advantages of the use of student managers these two: (1) That students can learn the necessity and value of a well-organized competitive group effort, and (2) That students can assume responsibility and feel that they have a definite part in their own training.[16] Bawden and Melbo stress the social development from student self-government and maintain that discipline and cooperation which are internal in nature, may be developed by sharing the control and management of the class.[17]

Extent of assistance given the instructor. Investigation of the literature to determine the extent of the assistance given the teacher by the use of these student managers brought to light several answers. Bawden states:

> One of the devices which successful shop teachers have adopted to meet the situation of larger classes is a plan of organization of pupil personnel which relieves the instructor of some of the time consuming details of shop management and shop routine. . . If the instructor can reduce the amount of personnel attention demanded by these routine details, he will have just so much more time and energy to do the teaching part of his job.[18]

14. Vern L. Pickens, "The Development of Teachers by Supervision," Industrial Education Magazine, January, 1932, p. 34-35.
15. Louis V. Newkirk and George D. Stoddard, The General Shop, Peoria: The Manual Arts Press, 1939, p. 86.
16. Stanley S. Radford, "Drafting Room Student Personnel Organization and Management," Industrial Education Magazine, May, 1934, p. 137.
17. Bawden and Melbo, op cit., p. 150-152.
18. Bawden, op. cit., p. 93-94.

Pickens, a supervisor, would promote the ideas of shop organization to include: (1) Student participation in the personnel control and conduct of the shop, and (2) in the management of the various units of the shop as the tool room, supply room and the like.[19] Such an organization, he feels would give the instructor a chance to contribute his ideas for the benefit of the group and allow him more time to perform his primary duty of teaching.[20] Radford has in mind the slower students in the class when he suggests that students can be taught to perform certain managerial duties and otherwise assist the instructor. This makes it possible for him to give more time to the instructor of the slower pupils in the class.[21] Newkirk and Stoddard claim that no school system can afford to have an instructor spend fifty per cent of his time "waiting" on the class.[23] Bollinger also shows the need for the use of student managers:

> The desirability of a maximum amount of individual instruction makes it imperative that the non-instructional duties such as calling the roll, distributing tools and materials, making out reports, etc., may be reduced to a minimum in order that the teacher may give additional personal attention to the student as needed . . . The personnel organization can assume a large part of the routine, time-consuming tasks of the teacher. The teacher more nearly approaches the position of advisor, consultant and director for the class rather than "handy-man and policeman."[24]

Democracy and student management. Whether or not the principles of democracy are attained by the use of student management is quite generally agreed upon by leaders of industrial arts. McHenry claims that the development of the application of the fundamentals of democracy

19. Pickens, op. cit., p. 34.
20. Ibid., p. 35.
21. Radford, op. cit., p. 137.
22. Carl F. Oberschmidt, "Electric Shop Pupil Personnel Organization," Industrial Arts and Vocational Education, December 1941, 30:427-8.
23. Newkirk & Stoddard, op. cit., p. 85.
24. Bollinger, op. cit., p. 103.

are attained by student participation in a class organization.[25] Mays and Casberg point out the necessity of student government for the preservation of democracy:

> A teacher can lecture or conduct recitations with little or no class organization, but where any sort of manual work is to be performed by the class some sort of carefully planned group organization is necessary.
>
> Besides introducing the pupil to typical procedures of modern industrial life, well planned class organization also affords an excellent means of training in self-management and an awareness of one's responsibility for the success of organized efforts. These constitute the very essence of effective democratic living, and they must be developed in youth if democracy is to continue to exist.[26]

They also suggest that the teacher and pupil should work together cooperatively in planning the organization of the class as an example of democracy at work.[27] Radford takes the view of training for living in a democracy by organizing the school class to resemble industrial shops which train the future citizens to fit into an industrial society more readily. He also maintains that student government carries on in an efficient manner when the teacher is absent.[28]

The Questionnaire and Related Reading

Further research was made to find how leaders in the industrial arts field would have responded to the items in the questionnaire.

The number of assistants. The questionnaire listed ten student management jobs and space was provided for any additional positions which an instructor may have in his shop. Carlsen used seven main assignments in his general shop, with six section foremen for each division, not

25. Raymond B. McHenry, "A Challenge to Industrial Arts Education," Industrial Arts and Vocational Education, January, 1941, 30:4-5.
26. Arthur B. Mays and Carl H. Casberg, School Shop Administration, Milwaukee: Bruce Publishing Company, 1943, p. 218.
27. Ibid., p. 142.
28. Radford, op. cit., p. 137.

including clean up assignments.[29] Lusk had eight permanent job assignments in his sheet metal shop not including individual clean up duties.[30] Oberschmidt in an electric shop, has twenty-five different assignments which included clean up duties.[31]

Appointed or elected. The procedure for selecting and appointing these student managers was the second unit of the questionnaire. When students are allowed to choose their own class officers the real leaders are elected, although they may not be the best.[32]

Oberschmidt would not allow students to elect pupils for supply and tool room jobs because these assignments are too important to take a chance with unskilled selections.[33] Schad uses a combination of teacher appointment and class election. In advanced classes he allows the highest ranking officer to be elected then appoints the other officers in cooperation with the elected officer. The officers in beginning classes are all appointed by the instructor who recommends that an advanced student be obtained for a foreman, if possible. Appointments run from six to nine weeks.[34] Carlsen places all names on an assignment wheel and rotates it weekly giving all students a chance to sample all the duties within the school year.[35]

Preparation for the job. Just how much preparation and what kind was the next unit in the survey. Schad not only gives each student a typewritten copy of his duties, he also holds a personal conference with

29. F. A. Carlsen, "Pupil Foreman Type of Organization as A Teacher Device in the General Shop," Industrial Education Magazine, March, 1934, 36:64.
30. C. K. Lusk, "Competition in Keeping an Orderly Shop," Industrial Arts and Vocational Education, December 1937, 26:418.
31. Oberschmidt, op. cit., p. 427.
32. Jones, op. cit., p. 201.
33. Oberschmidt, op. cit., p. 427.
34. Joseph A. Schad, "Shop Management and Control," Industrial Arts and Vocational Education, March 1938, 27:122.
35. Carlsen, op. cit., p. 64.

each student.[36] He informs the student of the duties of his office, the location of supplies and materials needed, and the techniques of issuing or handling materials.

Insignia used. Schad provides each student manager with a nickle-plated badge indicating his official business.[37]

Over organized. Ericson warns against too much organization, with the whole class performing special duties. Very little actual teaching of the subject would be evident.[38]

Duties and responsibilities. The foreman's duties would be those of assisting the instructor when needed.[39] Newkirk and Stoddard would have the foreman carry on with his project while on duty.[40] Carlsen's shop superintendent is a full time job.[41] Duties of the tool room attendant, such as sharpening edged tools, filing saws, etc., in his spare time is recommended by Ericson.[42] He would also have them responsible for the cleanliness of the tool room.[43] Ericson would have the supply man relieve the teacher of handling materials.[44] Schad used two men, a general stock foreman for the larger pieces of material, and a supply room clerk for screws, nails, etc. His general stock foreman has a list of ten duties and the supply room clerk a total of six duties.[45] The machine man should assume responsibility for the care and upkeep of the machinery with the close supervision of the instructor.[46] He should

36. Joseph A. Schad, "Material Control and Distribution," Industrial Arts and Vocational Education, January 1941, 30:5-6.
37. Schad, op. cit., January 1941.
38. Emanuel E. Ericson, Teaching Problems in Industrial Arts, Revised Edition, Peoria: Manual Arts Press, 1941, p. 141.
39. Ibid, p. 127.
40. Newkirk & Stoddard, op. cit., p. 86.
41. Carlsen, op. cit., p. 64.
42. Ericson, op. cit., p. 119.
43. Ibid, p. 129.
44. Ibid, p. 132.
45. Schad, op. cit., January 1941, p. 5-6.
46. Ericson, op. cit., p. 126.

check the condition of the machines daily and lubricate when it is necessary. Schad's finishing room foreman has twelve duties including supervision of all finishing, keeping finishing room clean and orderly and keeping an inventory of all supplies.[47] The secretary would keep books on all materials issued, keep attendance records and record grades from shop superintendent.[48] The duties of the safety engineer, according to Carlsen are to check the students and the equipment, reporting any infraction of the rules of unsafe machinery.[49] He lists ten duties for his safety man in addition to a testing program carried on by the safety engineer. The shop librarian should have full responsibility for the reference shelves and texts.[50]

47. Schad, op. cit., January 1941, p. 6.
48. Schad, op. cit., March 1938, p. 122.
49. Carlsen, op. cit., p. 66.
50. Ericson, op. cit., p. 139-40.

SHOP TYPES AND STUDENT LOADS

The first unit of the questionnaire secured information on the type of shop, its daily pupil load and the number of classes. This information provided data for the survey insofar as it revealed the scope of the problem. Certainly the type and size of the class is important when a survey is being made of the organization of that class. Each shop was listed on each of these items, and totals of all shops tabulated. The average class sizes and daily pupil loads for each type shop was also indicated.

Shop Types

The tabulation listed seven types of shops on all reports. The shops reporting were as follows: 52 wood shops, 29 general metal, 23 mechanical drawing, 20 electricity, 28 crafts, 32 general shops, and 19 other types which included automotive shops.

Student Loads

Each shop reported its daily student load (see Table 1). Wood shop classes totaled 3552 students, 141 classes which made an average class load of about twenty-five students per class. General metal totaled 1384 students, 57 classes for an average class load of about twenty-four students. Electric shops reported having 979 students, 37 classes, or approximately twenty-six per class. Drafting had 1374 students, 56 classes for an average of twenty-five per class. The instructors of craft classes reported teaching 1713 students, having 64 classes, or an average of twenty-seven students in each class. The general shop had 2416 students, 93 classes held, or about twenty-six students in the

average class. The other types of shops that were reported which included auto mechanics, home mechanics, etc., totaled 875 students, 41 classes, or about twenty-one students per class.

The total student load in all shops reported was 12293, an average of approximately twenty-five students in each class for the 489 classes reported.

Table 1. Totals of shop types and student loads

Shop types	Shops	Students	Classes	Average class load
Woodwork	52	3552	141	25.2
General Metal	29	1384	57	24.3
Electrical	20	979	37	26.5
Drafting	23	1374	56	24.5
Crafts	28	1713	64	26.8
General Shop	32	2416	93	26.0
Others	19	875	41	21.3
Totals:	203	12,293	489	25.1

Size of Classes

The importance of the size of class and its relation to student management is pointed out in a preceding chapter. A study of the data revealed the average size for all shops included in the survey was about twenty-five students per class (see Table 1). The average size of class for each shop was about twenty-five students for the wood shop classes, over twenty-four for the general metal and drafting classes, approximately twenty-six in the electrical, craft, and general shops. The various other types of shops reported having about twenty-one students per shop class.

SHOP TYPES AND STUDENT MANAGEMENT

The next part of the questionnaire sought to determine the number of pupils placed in management or control assignments in each shop. Instructors were asked to indicate on the suggested list of ten assignments: (1) Whether they had a permanent managerial position; (2) Whether they appointed a student when conditions indicated a need; or (3) That they did not use such a manager in their shops.

The returns provided data for determining the prevalence of student management practices in the shops. The list of management assignments included superintendent, supervisor of clean up, finishing room attendant, machine man, bench man, tool man, attendance checker, supply checker, safety foreman, and librarian.

Many shops had different names for similar assignments. Very few had more than ten assignments listed, but scoring was on the original ten as listed or those which were identical, but under a different name.

Student Management in School Shops

One hundred and twenty-seven shops were reported showing a total of 416 student managers in "permanent" positions with 89 other student managers assigned "occasionally." This is an average of 3.3 student managers in permanent positions in the average shop class. This number increases to 4.0 student managers in each class when those assigned "occasionally" are used.

The student managers in permanent positions were sixty-three superintendents, sixty supervisors of clean up, thirty-five finishing room

attendants, forty-four machine men, fifty-five bench men, seventy tool men, seventeen attendance checkers, eighteen supply checkers, twenty-three safety foreman, twenty librarians and twelve others such as clamp men and sweepers.

The student managers appointed "occasionally" include:: six superintendents, eight supervisors of clean up, thirteen finishing room attendants, eleven machine men, eight bench men, seven tool men, six attendance checkers, nine supply checkers, fifteen safety foreman and six librarians.

In the average size class of about twenty-five students, thirteen per cent of the class are appointed to permanent positions as managers. This increases to about twenty per cent of the class appointed as managers when those assigned "occasionally" are added.

Table 2. Relative prevalence of management positions

MANAGER	PERMANENTLY		OCCASIONALLY		NEVER	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Superintendent	63	61.8	6	5.9	33	35.5
Supervisor of clean up	60	64.5	8	8.6	25	26.9
Finishing room attendant	35	42.7	13	15.9	34	41.5
Machine man	44	53.0	11	13.4	28	33.7
Bench man	54	60.6	8	9.0	27	30.4
Tool man	70	73.8	7	7.4	18	18.9
Attendance checker	17	21.8	6	7.7	55	70.5
Supply checker	18	22.0	9	10.9	55	68.3
Safety foreman	23	27.1	15	17.7	47	55.3
Librarian	20	24.7	6	7.4	55	68.0
Other	12	16.4	6	8.2	55	75.3

Student Manager Information

Table 3a. Student manager information (questionnaire totals)

Superintendent	Yes	No
1. If called out of the shop would you allow the superintendent to take over if the power machines were left on?	42	33
2. Would you allow him to take over if the power machines were cut off?	64	6
3. Does the superintendent supervise clean up at the end of each period?	54	18
4. Does the superintendent take roll?	20	52
5. Does the superintendent handle minor discipline problems?	21	50
6. Is he allowed to continue on his project?	73	3
7. Does every student have the chance to be superintendent?	34	40
TOTALS:	308	202

Superintendent. The questionnaire examined the duties and responsibilities of each managerial position with several selected questions. These responses were tabulated only if the instructor indicated on the first page of the questionnaire that he used the manager. All the questions on the managerial duties were of the "yes" and "no" check list type. There were seven such questions sampling the superintendent's duties and responsibilities (see Table 3a). The results of some of these questions follow: There were forty-two affirmative checks and thirty-three negative checks on whether or not the instructor would allow the student superintendent to take over if the teacher were called out of the shop leaving the power machines on. The second question modified the first in respect to allowing the superintendent to assume

control if the power machines were off and those replies total 64 affirmative and six negative. To examine some of the duties, the third question asks if the superintendent was required to supervise the clean up at the end of the period, 54 answered in the affirmative and eighteen checked the negative. In twenty-one shops the superintendent handled minor discipline cases while fifty others did not require this of their superintendent. The last question asks whether every student has a chance to be a superintendent and thirty-four answered in the affirmative while forty answered negative.

Table 3b. Student manager information (questionnaire totals)

Tool man		Yes	No
1.	Do students use checks to obtain tools?	12	77
2.	Does the tool checker repair or sharpen tools as part of his job?	15	67
3.	Is the tool keeper required to keep an inventory as part of his job?	27	53
4.	Is the tool checker allowed to continue work on his project while on the job?	65	17
5.	Please check the type of tool set up you have in your shop.		
	Tool room 29		
	Tool cabinet 57		
	Other 4		
	TOTALS:	119	214

Tool man. The questions on the tool man yielded information on the methods of issuing tools, the type of tool set up in the shop and some of the duties of the tool checker (see Table 3b). Some of the findings were: That twelve shops used numbered checks with which the students obtained tools, while 77 did not use this method; fifteen instructors required their tool men to repair and sharpen tools as part of their job, while 67 relieved the tool men of this duty; sixty-five

tool men were allowed to continue with their project while seventeen others were required to spend full time as tool man.

Responses to the last question gave the following information regarding the type of tool "set-up" used: Twenty-nine shops used a central tool room; Fifty-seven shops used a tool cabinet. A total of four other types of tool set ups were used.

Table 3c. Student manager information (questionnaire totals)

Finishing room attendant	Yes	No
1. Does finishing room attendant issue all paint supplies?	10	45
2. Is he instructed concerning inflammable materials?	45	6
3. Does he know how to operate a fire extinguisher?	45	6
4. Does he check brushes in and out?	19	36
5. Is he responsible for cleanliness of the finishing room?	49	4
6. Is he required to keep an inventory of finishing materials on hand?	7	48
TOTALS:	175	145

Finishing room attendant. There were six questions used in investigating the duties of the finishing room attendant (see Table 3c). Some of the results were as follows: In ten shops finishing room attendants were required to issue all paint supplies and in forty-five they were not. Forty-five teachers instructed their finishing room attendant on inflammable materials while six others did not. Nineteen instructors required the finishing room attendant to check brushes both in and out while thirty-six did not require him to do this. Forty-nine instructors made the finishing room attendant responsible for the cleanliness of the finishing room while only four others were not given

this assignment.

Table 3d. Student manager information (questionnaire totals)

Supply Checker	Yes	No
1. Does supply checker issue all materials?	5	35
2. Does he keep a set of records or inventory of supplies?	5	33
3. Is he allowed to continue project while on duty?	30	9
4. Is he responsible for the cleanliness of supply room?	29	10
TOTALS:	69	177

Supply checker. The four questions on the supply checker were in regard to the general duties of his position (see Table 3d). The results were: Five affirmative and thirty-five negative replies to the question asking if the supply checker was required to issue all materials. Five instructors required the supply checker to keep a set of records or inventory of supplies and thirty-three relieved him of this duty. Thirty instructors allowed the supply checker to continue his shop project while nine others did not. Twenty-nine teachers made the supply checker responsible for the cleanliness of the supply room and ten others were not given this responsibility.

Table 3e. Student manager information (questionnaire totals)

Machine Man	Yes	No
1. Does he oil and grease machines as part of his job?	31	26
2. Is he permitted to make minor repairs and adjustments without instructor's approval?	30	27
3. Is he allowed to continue project while on duty?	55	1
4. Is he responsible for the cleanliness of supply room?	18	29
TOTALS:	134	83

Machine man. Four questions concerning the duties of the machine man (see Table 3e) were answered as follows: Thirty-one instructors required the machine man to oil and grease the machines as part of his job while twenty-six others did not have this requirement. Thirty instructors allowed the machine man to make minor repairs and adjustments without their permission and twenty-seven other teachers required the repairs and adjustments to be checked. Fifty-five allowed the machine man to continue work on his project, while only one would not. Eighteen replied that the machine man was responsible for the cleanliness of the machines and twenty-nine instructors reported their machine man was not responsible.

Table 3f. Student manager information (questionnaire totals)

Bench Man	Yes	No
1. Does bench man assist others with their project work?	19	45
2. Is he responsible for bench cleanliness at the end of the period?	59	0
3. Is he allowed to continue to work on his project?	60	0
TOTALS:	138	45

Bench man. Three questions were submitted on the bench man and his duties (see Table 3f). The first question was: Does the bench man assist others with their project work? Nineteen replied in the affirmative and forty-five negative. The second question asked if the bench man was responsible for the cleanliness of the benches at the end of the period. Fifty nine checked this affirmative and there were no instructors who checked negative. The last question asked if he was allowed to continue on his shop project work. Sixty instructors allowed

him to go on with his work and there were no instructors who checked negative.

Table 3g. Student manager information (questionnaire totals)

Attendance Checker	Yes	No
1. Is checking attendance the only duty of this student?	10	25
2. Does he enter absences in the roll book?	18	14
3. Does he check attendance at the end of period?	9	23
TOTALS:	37	62

Attendance checker. Three questions were used to ascertain the extent of the duties of the attendance checker (see Table 3g). Replies to these questions were as follows: Ten replied that checking the attendance was the only duty of the attendance checker while twenty-five indicated additional duties. Eighteen instructors had the attendance checker enter the absences in the class roll book and fourteen did not. Nine had the attendance checker check the attendance at the end of the period while twenty-three did not require this duty.

Table 3h. Student manager information (questionnaire totals)

Safety Foreman	Yes	No
1. Does he inspect the shop regularly using a check list?	16	23
2. Is the safety foreman a full time job?	10	31
3. Does he report to the teacher on the safety conduct of pupils?	0	38
TOTALS:	26	92

Safety foreman. Three questions regarding the safety foreman and

his duties (see Table 3h) brought the following replies: Sixteen stated their safety foreman inspected the shop regularly, using a safety check off list while twenty-three others did not require this duty. Ten answered that the safety foreman was a full time job in their shops and thirty-one replied in the negative. There were no cases where a safety foreman reported to the instructor on the safety conduct of pupils, all thirty-eight who reported on this question did not require this.

Table 3i. Student manager information (questionnaire totals)

Supervisor of Clean Up	Yes	No
1. Is he responsible for the whole shop area?	61	7
2. Does he report shop cleanliness at the end of each period?	56	7
TOTALS:	117	14

Supervisor of clean up. Questions on the clean up supervisor were to determine the extent of responsibility given to them (see Table 3i). Sixty-one instructors made him responsible for the cleanliness of the complete shop area while seven did not. In fifty-six shops the clean up supervisor reported on the cleanliness of the shop to the instructor at the end of the period. In seven others this was not made a requirement.

Table 3j. Student manager information (questionnaire totals)

Librarian	Yes	No
1. Does he keep a record of all books and magazines in the shop?	7	27
2. Is he responsible for the orderliness of books and magazines?	28	6
TOTALS:	35	33

Librarian. Two questions concerning the shop librarian (see Table 3j) brought the following replies: Seven stated that the shop librarian kept a record of all books and magazines while twenty-seven shop librarians did not. Twenty-eight reported that the librarian was responsible for the orderliness of books and magazines in the shop while six others did not make this requirement.

Prevalence and Importance of Managers

Superintendent. Other names that were used for this particular manager were shop president and shop foreman. Instructors reported that the managerial position of superintendent used sixty-three student superintendents assigned to a "permanent" position, while six other shops used a superintendent "occasionally" (see Table 2). This indicated that about fifty per cent of all the surveyed shops had a superintendent at all times, and when those that are used "occasionally" are placed on duty, the percentage rises to about fifty-five.

There were seventy-five replies on the duties and responsibilities of a superintendent. Seventy-five replied on the first question and in fifty-six per cent of the cases the superintendent was allowed to take over the shop in case the instructor was called out (see Table 3a). Seventy replied to the second question concerning permission for the superintendent to take over if the power machines were turned off; this was about ninety-one per cent of the total returns. Seventy-two answered the question on the superintendent supervising clean up at the end of the period. Seventy-five per cent would make the superintendent responsible for this duty. Seventy-two answered the roll call question and only twenty-eight required the superintendent to take roll.

As to the superintendent being required to handle minor discipline problems, seventy-one replies showed that only about thirty per cent

allowed the superintendent to assume such control in the shop. A total of seventy-six answered the question concerning the superintendent and his shop project. Ninety-six would allow him to proceed with his class work. Seventy-four replied to the question on the opportunities to become superintendent. In forty-three per cent of these shops all the students are given an equal opportunity to become superintendent.

Tool man. This was the most prevalent position reported. Seventy shops reported a permanent tool man and seven occasionally used a tool man. Some shops referred to this position as the tool checker. Eighty-one per cent of the ninety-five instructors reporting had tool men either permanently or occasionally (see Table 2).

The first question asked for the method used by the students to obtain tools. Eighty-nine instructors answered the question on whether or not students used numbered checks to obtain tools. Twelve replied that their shops used numbered checks which was about fifteen per cent of all replying. The second question had eighty-two replies, fifteen, or nineteen per cent of which require the tool man to repair or sharpen tools as part of his job. Eighty replied to the question on requiring the tool man to keep an inventory as part of his job. Twenty-seven, or thirty-four per cent required him to do so. Eighty-two answered the question on allowing the tool man to continue with his project work. Sixty-five, or seventy-nine per cent of those answering allowed the tool man to continue with his shop project.

The last question deals with the type of tool set up in each shop. Ninety replies were received and checked as follows: Twenty-nine shops used a tool room, which is about thirty-two per cent of all shops reporting. Fifty-eight shops, or sixty-five per cent had tool cabinets. Three

shops used a movable tool rack which is about three per cent of all the shops that were reported in this survey.

Finishing room attendant. Thirty-five student managers were reported in a permanent position, with thirteen assigned occasionally, thirty-four shops reported that they never use a finishing room attendant (see Table 2). There were six questions concerning the duties of the finishing room attendant. The first with fifty-five replies asked whether or not the finishing room attendant issued all the paint room supplies in the shop. Ten, or eighteen per cent required this duty of their finishing room attendant.

In the field of safety, forty-five, or eighty-eight per cent reported that the attendant received instruction concerning inflammable materials. Fifty-one replied on the question regarding the attendant knowing how to operate fire extinguishers. Forty-five replied that their paint room attendants did know how to operate fire extinguishers. This was eighty-eight per cent of those reporting.

Nineteen out of the fifty-five replying to the question on the duty of checking brushes both in and out required their finishing room attendants to do so. This was only thirty-five per cent of all shops reporting on this item. Ninety-two per cent of the fifty-three shops reporting made the finishing room attendant responsible for the cleanliness of the finishing room. Only seven shops required the finishing room attendant to keep an inventory of all finishing materials on hand. This was thirteen per cent of the fifty-five that reported on this question.

Supply checker. Eighteen regularly assigned and nine supply checkers assigned occasionally were reported. This was thirty-one per cent of the eighty-two shops that used supply checkers (see Table 2). Four questions asked the duties and obligations of supply checkers. Forty

instructors replied to the first question and five, or thirteen per cent had their supply checkers issue all supplies. Only thirteen per cent, or five out of thirty-eight reporting had their supply checkers keep a set of records or an inventory of the supplies. Thirty out of the thirty nine reporting, or seventy-seven per cent allowed their supply checkers to continue with their shop projects. In twenty-nine shops the supply checker was responsible for the cleanliness of the supply room. This was seventy-five per cent of the thirty-nine shops reported.

Machine man. A total of forty-four machine men were assigned in permanent positions and eleven assigned occasionally (see Table 2). The four questions on the duties and responsibilities were answered as follows: Fifty-four per cent, or thirty-one out of the fifty-seven reporting had the machine man oil and grease the machines as part of his job. Thirty out of the fifty-seven reporting, or fifty-three per cent allowed their machine man to make minor repairs and adjustments without permission from the teacher. Fifty-five machine men, or ninety-eight per cent of the fifty-six replying were permitted to continue their project while on duty. In eighteen shops, or thirty-eight per cent of the forty-seven shops reported the machine man was made responsible for the cleanliness of machines (see Table 3e).

Bench man. There were fifty-four student managers in a permanent position with eight assigned occasionally and twenty-seven shops in which a bench man was never used. Only three questions concerned the duties of the bench man (see Table 3f). Nineteen shop instructors out of sixty-four, or thirty per cent had their bench man assist the other students with their project work. Of the fifty-nine reporting, all made the bench man responsible for the cleanliness of the benches at the end of the period. Out of the sixty reporting all allowed their bench man

to continue with his shop project.

Attendance checker. This position is sometimes called the shop secretary. Seventeen attendance checkers assigned regularly and six occasionally were reported which denotes that thirty per cent of all shops used an attendance checker.

Three questions were asked regarding the duties of the attendance checker. The results were: Ten shops reported that the taking of attendance was the only duty of this manager. This was twenty-nine per cent of the thirty-five shops reported on this question. Eighteen shops out of thirty-two, or about fifty-six per cent had an attendance checker who entered the absences in the roll book. Only nine, or twenty-eight per cent of the thirty-two replying, had their attendance checkers check the attendance at the end of the period.

Supervisor of clean up. Sixty-eight shops used clean up supervisors, sixty of which were assigned to permanent positions, thus sixty-five per cent of all shops reporting used a clean up supervisor.

Duties and responsibilities were examined through two questions (see Table 3i). The first question concerning the supervisor being responsible for the whole shop area was answered by sixty-eight instructors. Sixty-one of these, or ninety per cent required the clean up supervisor to be responsible for the cleaning of the entire shop area.

Replies to the second question indicate that in fifty-six shops clean up supervisors were required to report the cleanliness of the shop to the instructor at the end of the period. This is more than eighty-eight per cent of the sixty-three shops that reported.

Safety foreman. Of a total of eighty-five responses twenty-three used regularly assigned safety foremen, fifteen assigned foremen occasionally, and forty-seven reported that a safety foreman was never used.

Three questions were submitted on the duty and responsibility of the safety foreman (see Table 3h). Thirty-nine instructors responded to the first question and sixteen, or forty-one per cent required their safety foreman to inspect the shop at regular intervals, using a safety check-off list.

On the second question only ten out of forty-one, or twenty-four per cent made the position of safety foreman a full time job. This would keep the safety foreman from working on his class project work in these ten shops. The last question received thirty-eight negative answers. There were no instructors requiring the safety foreman to report the safety conduct of the students to the instructor.

Shop librarian. There were reported twenty regular shop librarians assigned, six were used occasionally and fifty-five never used a librarian. Of the thirty-four shops reporting, seven, or twenty-six per cent of the instructors required the librarians to keep a record of all the books and magazines in the shop. In response to the second question twenty-eight of the thirty-four instructors, or about eighty-two per cent reported that the librarian was responsible for the orderliness of books and magazines.

ADMINISTRATION OF STUDENT MANAGERIAL POSITIONS

All organizations require the principles of administration for successful operation. The survey investigated the types of administration and its application to shop organization. Particular attention was given as to how the shops made the student assignments, the information given the student before he takes over an assignment, and the length of time he spends on his managerial job.

Methods of Assigning

In rotation. The first question in the section on how the assignments were made was in regard to the rotation of students in managerial positions. Of the total of ninety-one instructors who answered this question, seventy-six used the rotation plan while fifteen others did not. Eighty-four per cent of those replying used the rotation plan.

Comments on this plan were few, but they did explain that some shops used a wheel chart which was rotated one name at a time at the end of each assignment period.

By appointment. The questionnaire asked how many student managers were selected and appointed by the instructor alone. A total of seventy-eight shops answered this question. Fifty-seven teachers selected and appointed their managers, twenty-one replied that they did not use this method. Seventy-three per cent of those answering this question used this method of selecting and appointing student managers.

Class election. This question asked how many teachers made assignments by class election. Twenty-two used this method of making assignments or thirty-one per cent of the seventy reporting.

Completed project. There were fourteen instructors, or about twenty-two per cent that made manager assignments to students when they completed their projects.

Table 4. Methods, preparation and testing of student assignments (questionnaire totals)

How Are Student Assignments Made?	Yes	No
1. In rotation, everyone having a job during year	76	15
2. By appointment from you as the teacher	57	21
3. By class election	22	48
4. When student completes project and is idle	14	52
5. Assignments are posted well in advance	61	15
6. Substitutes are assigned when student manager is absent	66	10
7. As punishment	0	57
8. Other (specify)	0	0
9. How long is the assignment? Days 16, Weeks 64, Months 11, Year 1		

Table 5. To what extent is information about his responsibilities given to a student manager before he takes over an assignment

	Yes	No
1. Is the student required to pass an examination?	7	67
2. Is written information provided in advance?	44	34
3. Is oral instruction given in advance by the teacher?	84	6
4. Is the situation such that instruction is not given?	5	57
5. Other (specify)	0	0

Posting of assignments. In an attempt to find out if students were given ample notice and sufficient time to prepare for a managerial position, a question was submitted. A total of seventy-six shops

replied. Sixty-one, or about eighty per cent posted their assignments well in advance, fifteen did not.

Pre-assignment. This question asked if when the managers were absent, were others previously assigned as substitutes? A total of seventy-six instructors out of the 127 answered this question. Sixty-one of these had students assigned to take over managerial positions in case of absence. This is a total of about eighty per cent of those answering the question who did pre-assign.

Punishment. Instructors were asked to reply on the question concerning the use of students who needed punishment or extra duty and so were assigned to managerial positions. There were no shops that replied in favor of this method.

Other methods. There were no other methods reported by those responding to the questionnaire.

Length of assignment. Ninety-two reported out of the total of 127 shops in the survey. In sixteen shops assignments were changed daily, sixty-four changed weekly, eleven changed each month, and in one shop the change was made each year.

Job Information Provided

Examination required. There were seventy-four responses to the question as to whether or not an examination was required before acting as a student manager. Sixty-seven of the replies, or about ninety-one per cent reported that no examination was required.

Written information. Shops were asked to reply as to whether or not they provided written information concerning a manager's duties and responsibilities for the student manager before he assumes the position.

A total of seventy-seven instructors replied to this question. Forty-four used written information while thirty-four did not. This

indicated fifty-seven per cent of those reporting used written information to instruct incoming managers as to their duties and responsibilities.

Oral instruction. Shops were next asked to respond to the question as to whether or not they provided oral instruction for the new managers before they assumed their office. A total of ninety shops replied to this question. Eighty-four gave oral instruction as preparation to student managers, six did not, thus ninety-eight per cent of those answering the question provided oral instruction in advance.

No instruction. The instructors were asked to report if there was any instruction given to student managers before they were placed in office. Sixty-two shops reported with five replying that no instruction was given, and fifty-seven, or ninety-two per cent reported that instructions were given.

STUDENT MANAGEMENT PRACTICES

Nine questions were included under the heading of "general information items." The first one asks for the instructor's opinion in regards to whether or not his student managers were well informed on the duties and obligations required of a manager.

The next three questions ask for the facts concerning student management in general and were as follows: Did the instructor require the class to respect the position of the student managers? Were special considerations or honors given to the managers? Did the student managers use special insignia to identify them from the group?

The last five questions asked for the opinions of instructors as to: The degree of organization of their shops; whether or not managerial experience trained the student in leadership; whether or not junior high pupils make good managers; if the time and effort given by the instructor in organizing and supervising student managers was justifiable and if the use of student managers gave the instructor more time for teaching.

Management Practices.

Preparation of managers. The question asks whether or not the students were well informed in regards to the duties and obligations required of managers. Ninety-four teachers replied to the question and all ninety-four believed that their managers were well informed.

Respect of manager position. The questionnaire asked the teachers to indicate whether or not they required the students in their classes

to respect the position of manager. A total of ninety-one teachers replied to the question. There were eighty-six instructors requiring students to respect the positions of their student managers. This was about ninety-five per cent of those answering the question concerning required respect for student managers.

Table 6. Student management practices

Questions of Opinions and Facts	Number Answered Yes	Number Answered No	Per cent Replied Yes	Per cent of 127 shops Yes
1. Are students well informed as to duties required on jobs?	94	0	100	74.0
2. Do you require the class to respect the position of all student managers?	86	5	94.5	67.7
3. Are special considerations ever given to student managers?	33	50	39.7	26.0
4. Special identification	3	80	3.6	2.4
5. Over organized	6	86	6.5	4.8
6. Experience can train for leadership	86	8	91.6	67.7
7. Can Junior High pupils be good managers?	84	3	96.2	66.1
8. Is time and effort justified?	84	4	95.5	66.1
9. More time for instruction	84	8	91.3	66.1

Special considerations given managers. Instructors were asked to reply on whether or not they gave special considerations or honors to their student managers. A total of ninety-four instructors replied (see Table 6). Thirty-three instructors gave special consideration and fifty did not. Forty per cent of the instructors reporting gave considerations.

Insignia used. Eighty-three teachers replied to the question on

whether or not they provided their student superintendent with insignia such as special clothing and the like (see Table 6). Of the three using insignia, one used a special colored shop apron representing a particular position. One shop used a card, and another had a tag pinned to the students clothing.

Instructor's Judgments

Over organized shop. One question asks whether or not the instructor ever felt that his shop was over organized. Ninety-two replied to the question (see Table 6). A total of eighty-six instructors reported their shops were not over organized. This represented ninety-five per cent of the ninety-two shops reporting.

Leadership training. The next item on this unit was whether or not instructors believed that experiences in managerial positions trained students in leadership (see Table 6). A total of ninety-four instructors replied to this question. Eighty-six, or ninety-two per cent of thos replying were of the opinion that leadership was one of the benefits of student government. Only eight checked a negative return.

Junior high managers. A total of eighty-seven teachers replied to the question of whether or not the instructor believed that junior high pupils could be good managers (see Table 6). Eighty-four, or about ninety-eight per cent of those replying were of the opinion that junior high school students could be good managers. There were only three replying that the junior high pupils were not good managers.

Time and effort justified. Instructors were next asked to reply to the question on whether or not they believed their time and effort was justified in preparing and supervising student management (see

Table 6). Eighty-eight instructors replied to the question and eighty-four, or about ninety-five per cent were of the opinion that their time and efforts were justified.

More time for instruction. The last question in this section concerns the belief of instructors that the use of student managers gave them more time for instruction. A total of ninety-two out of 127 instructors replied to this question (see Table 6). Eighty-four, or about ninety-one per cent of those replying, were of the opinion that their use of student managers gave them more time for instruction.

CONCLUSIONS AND RECOMMENDATIONS

The conclusions were formed from a review of each section which pertains to the extent and success of the survey, student management practices, organization and control factors of student management, principles of student government and teacher opinions.

Recommendations covered the promotion of student management as an essential in all secondary school shops. There is evidence that a need exists for further study in the fields of student government especially in the field of industrial arts.

Conclusions

Method of research. The use of the questionnaire proved valuable in securing information for the study, and the results were tabulated accordingly.

Related literature. Leaders in the field of industrial arts education, as well as education in general, are of the opinion that necessary educational benefits are derived from a program of student government.

These educators recommend that schools provide a program of student government in their shops to (1) broaden the activity program of a class wherein the pupils may participate in vocational and educational experiences of primary importance which are those of responsibilities of self direction and self control; (2) Develop the student's social traits and psychological trends by having him participate as a student manager to learn the value of cooperation group effort, to assume responsibility

for the group and to feel that he has a definite part in their training; (3) To assist the instructor with many of the non-technical duties, allowing him more time to give the needed instruction and to care for the other more important technical duties of the shop program; and (4) To promote the principles of democratic living by developing leadership in the democratic ideals by student participation in the organization of student government.

Shop types and student loads. The shops reported had an average daily attendance of 12,293 pupils in 489 classes. The average size class was found to be twenty-five students. This is considered a large class by industrial arts educators, many of whom believe classes should be limited to twenty students to allow for individual instruction. In large classes the instruction must necessarily be neglected and more time given to the organization and administration of the over sized class.

One of the main reasons given for using student government was to relieve the instructor of this over load supervision permitting him to give more time to the individual instruction of the students.

Shop types and student management. Reports varied from those shops without student managers to shops organized with numerous managers assisting the instructor in many of the non-technical duties of a school shop. One hundred and twenty-seven shops were reported. The total of 416 managers were on regular duty at the time of the survey. This is an average of 3.3 student managers for each shop class.

Manager positions ranked in relation of importance as indicated by frequency of use in the shops. They were: (1) tool man, (2) superintendent, (3) supervisor of clean up, (4) bench man, (5) machine man,

(6) finishing room attendant, (7) safety foreman, (8) shop librarian, (9) supply checker, (10) attendance checker. As indicated by the returns the superintendent in several shops assumed the duties and responsibilities of the attendance checker, and the clean up supervisor. He may have assumed other duties which would lower the number of manager positions indicated by the survey.

Very few shops required their managers to work full time, their duties being handled in a few minutes at the beginning or closing of the shop period allowing them to continue their class project. These shops, according to the survey, had on the whole student management which was well organized and administered, with student officers performing specific duties and responsibilities with relative success.

Administration of student management. For the first time many students are placed in relatively life-like situations in the school shops where standards of control and conduct are quite similar to those of adult vocational life. There appears to be an excellent opportunity to incorporate the principles of good government into the shop program.

Administration of student government as termed in this survey was the selecting, appointing and guiding of student managers. The most popular method of selecting students for managerial duties was found to be by the rotation plan, which included all the students in the class, and rotated at set intervals giving all students a chance to explore all management positions. A smaller number of teachers selected a few students which they trained and assigned permanently, making the supervision and control of the student organization easier for the instructor, but ignoring the democratic principles of education, that of providing activity experiences for all.

The majority of the shops surveyed were organized to the extent that they posted their assignments well in advance; had assistants assigned for managers who were absent; and gave instructions and information to each student concerning the duties and responsibilities of his managerial position.

Student management in the school shop should be carefully organized and supervised the same as any other instructional unit, with the necessary instruction and guidance provided. Care should be taken to limit the amount of control given to student managers, especially the control over other students in the class.

Student management practices. The opinions of the instructors surveyed, and the leaders in the field of industrial arts concerning the values of student management indicated that they are in general agreement. A few shops were found to be definitely set against using student management and control. However, most shop instructors seem to believe in a democratic organization wherein students are given equal opportunity to become manager. The student managerial positions seem to be respected by the class, and in some shops are given special awards or considerations.

Few teachers felt that their classes were over organized. Most teachers believed that junior high students could be good managers, especially if the duties and responsibilities were not too complex, and if the students were carefully prepared and guided.

Instructors were found to be in nearly unanimous agreement with the statement that experiences in student management positions trains pupils in leadership. It certainly gives the student the opportunity to experience the other side of the control problem, consequently, they

may come to understand and appreciate the problems of organization and administration. Whether or not the student becomes a great leader is unimportant. The important thing is that he understands and appreciates the problems of government and respects the principles of good leadership, and that he develops a cooperative attitude and does the best he can within the limits of his ability.

Teachers seemed to believe also that the time and efforts required to prepare and supervise a student manager program was justified because it saves time in the long run, provides vocational and educational experiences, and allows the shop teacher to give more time to individual instruction.

Recommendations

Promote student management. Student government is as necessary as the content or informational units in the school shop. The first recommendation then would be to advocate the introduction of student management into all secondary school shops.

If the aim of education is to be the development of well rounded social beings, then certainly the benefits, both vocational and educational of student management should not be ignored by education. Experience gained from participation as a student manager could contribute to the development of such social traits as leadership, reliability, and cooperation. The characteristics of self confidence, self respect, and respect for authority can also be attained by participation in student government. The student would also become familiar with the general knowledge and skills of organization and administration, and especially the control and housekeeping of a shop.

Student management in the shops should conserve time for the instructor. It would enable him to allot many of the non-technical duties

to his student managers. It also would allow him to give more time to actual instruction, which would benefit all the students by increasing teacher efficiency.

The introduction of student management into the shops is in keeping with the democratic principles of our society. There is no better place to experience the benefits of a democratic way of life than to live it in the school shop. This would allow the class to assume a small part of the organization and control of the shop, in a democratic manner, with proper guidance and instruction. The results would be of value, not only in the vocational sense of preparation for a job, but in the general sense of preparing for a way of life.

Develop teaching aids. It is possible that some instructors do not allow student management in their shops because of a lack of success in past experiences, or a lack of knowledge and skill to organize and administer a good sound program of student government. Therefore, it is proposed that heads of departments or administration officials gather data relative to the principles and problems of student management, and publish it in booklet or pamphlet form for the purpose of encouraging student management in the school shops.

The investigation revealed that many of the schools could improve their student management organization. It would be of great help to teachers if they were provided with a well prepared booklet which would incorporate the best principles of student management, and suggest types of student control that have been used by others satisfactorily.

The administration should make it possible for shop teachers to visit other schools where successful student management organizations are in effect, thus, affording the teacher opportunities to see this

program in operation. Cooperation and backing by the administration are prerequisites to the success of such a program in the shop.

Further studies. This particular type of study only indicates what actually exists and does not examine the cause and effects of the condition. Further studies are needed to determine the contributions that student management programs can make to education in general. Research is needed relative to the use of student management practices in all fields of education with particular attention to the aims, objectives and methods used in each program.

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APPENDIX

Letter of transmittal

Dear Teacher:

I realize that you are a very busy person, but I am sure that you are interested in the progress and growth of Industrial Arts.

This questionnaire is being sent to all industrial arts teachers in the secondary schools of Utah. It is a part of a study being conducted to discover to what extent students are participating in shop management through a student personnel organization.

By checking this questionnaire you will aid in obtaining a true picture of the present shop management practices in our secondary schools and it will be of great service to me and probably to other industrial arts teachers as well. The information received from these questionnaires will not be evaluated on a personal basis, but will be held confidential and used only as it contributes to the study as a whole. The results of these findings will be sent to you if you so desire.

I take this opportunity to thank you for your consideration and help and wish you continued success in your teaching.

Sincerely yours,

U. Sterling Cheney

THESIS TITLE: A Study of Student Management Practices in Secondary School Shops in the State of Utah

QUESTIONNAIRE

_____ Junior__high school, _____ _____
(Name of School) Senior___ (Place) (Date)

DEFINITIONS OF TERMS:

1. Student Manager: Any position a student may be assigned in the personnel organization of the school shop.
2. Superintendent: The student who is directly responsible to the teacher for all the activities of the student personnel organization.
3. Supply Checker: The student who issues and/or checks the shop supplies.
4. Machine Man: The student who is responsible for the cleanliness of machines and/or in some cases oil and making minor adjustments.
5. Bench Man: The student who is responsible for cleanliness and care of the work benches.
6. Finishing Room Attendant: The student who is responsible for the cleanliness of the finishing room and/or issuing of finishing materials.

DIRECTIONS: Please check your shop.

SHOP ORGANIZATION	Your Shop	Daily Number of pupils	Number of Classes in Grades					
			7	8	9	10	11	12
1. Woodwork								
2. General Metal								
3. Electricity								
4. Drafting								
5. Crafts								
6. General Shop								
7. Other (Specify)								

STUDENT MANAGERS: Please check the following assignments which you used in your student personnel organization.

1. Check in column I if the assignment is used at all times.
2. Check in column II if the assignment is used occasionally.
3. Check in column III if the assignment is never used.

ASSIGNMENT	At All Times I	Occasionally II	Never III
1. Superintendent			
2. Supervisor of Clean up			
3. Finishing Room Attendant			
4. Machine Man			
5. Bench Man			
6. Tool Man			
7. Attendance Checker			
8. Supply Checker			
9. Safety Foreman			
10. Librarian			
11. Other (Specify)			

How Are Assignments Made?

		Yes	No
1.	In rotation, everyone having a job during the year . . .		
2.	By appointment from you as the teacher		
3.	By class election		
4.	When student completes a project and is idle		
5.	Assignments are posted well in advance		
6.	Substitutes are assigned when student manager is absent .		
7.	As punishment		
8.	Other (Specify)		

9. How long is the assignment? ____Days ____Weeks ____Months

To What Extent is Information About His Responsibilities Given to a Student Manager Before He Takes Over an Assignment?

		Yes	No
1.	Is the student required to pass an examination?		
2.	Is written information provided in advance?		
3.	Is oral instruction given in advance by the teacher? . .		
4.	Is the situation such that instruction is not given? . .		
5.	Other (Specify)		

GENERAL INFORMATION

		Yes	No
1.	Are students well informed as to duties required on jobs?.		
2.	Do you require the class to respect position of all student managers?		
3.	Are special considerations ever given to student managers?		
4.	Do you supply a special means of identification for student managers such as a badge or special apron? If so, please describe: _____		
5.	Have you ever felt your shop was over organized?. . . .		
6.	Do you feel that experience in these jobs train students for leadership?		
7.	Can junior high students be good managers?		
8.	Is your time and effort justified in organizing and supervising student management?		
9.	Do you believe that the use of student managers give you more time for instruction?		

Student Manager Information

If you use students managers please check all questions under each manager you use.

SUPERINTENDENT

	Yes	No
1. If you were called out of the shop would you allow the superintendent to take over if the power machines were left on?		
2. Would you allow him to do so if the power machines were cut off?		
3. Does the superintendent supervise clean up at the end of each period?		
4. Does the superintendent take roll?		
5. Does the superintendent ever handle minor discipline problems?		
6. Is he allowed to continue to work on his project?		
7. Does every student have the chance to be superintendent?		

TOOL CHECKER

	Yes	No
1. Do students use checks to obtain tools?		
2. Does the tool checker repair or sharpen tools as part of his job?		
3. Is the tool checker required to keep an inventory as part of his job?		
4. Is the tool checker allowed to continue work on his project while on the job?		

5. Please check the type of tool setup in your shop.
Tool Room ____ Tool Cabinet ____ Other (Specify) ____

FINISHING ROOM ATTENDANT

	Yes	No
1. Does paint room attendant issue all paint supplies?		
2. Is he instructed concerning inflamable materials?		
3. Does he know how to operate fire extinguishers?		
4. Does he check brushes in and out?		
5. Is he responsible for cleanliness of paint room?		
6. Is he required to keep an inventory of finishing materials on hand?		

SUPPLY CHECKER

	Yes	No
1. Does the supply checker issue all materials?		
2. Does he keep a set of records on inventory of supplies?		
3. Is he allowed to continue project while on duty?		
4. Is he responsible for the cleanliness of supply room?		

MACHINE MAN	Yes	No
1. Does he oil and grease machines as part of his job?		
2. Is he permitted to make minor machine adjustments without instructor's approval?		
3. Is he allowed to continue project while on duty?		
4. Is he responsible for the cleanliness of machines?		

BENCH MAN	Yes	No
1. Does bench man assist others with their project work?		
2. Is he responsible for bench cleanliness at the end of the period?		
3. Is he allowed to continue to work on his project?		

ATTENDANCE CHECKER	Yes	No
1. Is checking attendance the only duty of this student?		
2. Does he enter absences in the roll book?		
3. Does he check attendance at the end of period?		

SAFETY FOREMAN	Yes	No
1. Does he inspect the shop regularly using a check list?		
2. Is the safety foreman a full time job?		
3. Does he report to the teacher on the safety conduct of students?		

SUPERVISOR OF CLEAN UP	Yes	No
1. Is he responsible for the whole shop area?		
2. Does he report shop cleanliness at the end of each period?		

LIBRARIAN	Yes	No
1. Does he keep a record of all books and magazines in the shop?		
2. Is he responsible for the orderliness of books and magazines?		

Place questionnaire in the self addressed envelope and return it without delay.

Additional comments if any: _____

_____

_____

Please sign your name and address if you request a copy of the results of this survey. _____

_____

_____