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Number of Pages in Study: 31 Candidate for Degree of Master of Science

Major Field: Industrial Arts Education

Scope of Study: This study is a survey of 226 secondary Industrial Arts departments in Kansas. It shows the varied fiscal policies being practiced, kinds of lumber and finishes being used and the subjects related and unrelated to industrial arts but being taught by industrial arts teachers. Data were taken from the records of the office of the State Superintendent of Public Instruction and the 226 Industrial Arts teachers which answered the questionnaire.

Findings and Conclusions: From the study of 226 of the 309 Industrial Arts teachers which answered the questionnaire, the following information was gathered: There were 10,305 students enrolled in Industrial Arts classes for the year 1955-56. The range of enrollment is from 4 to 220. Shop fees were charged by 31.4 per cent of the schools investigated. Waste lumber charges were tabulated by sixteen different methods. The most popular method was to add 10 per cent to the total price the project. Shellac and varnish were the two most popular finishing materials being used. Finishing costs were estimated in a majority of the cases investigated. Freight charges were added to the price of the material in 80.8 per cent of the cases surveyed. Charges for waste in plywood was compensated for by increasing the price from 10 to 20 per cent. Small itmes such as glue, screws, dowels, and sandpaper were alloted to 30.5 per cent of the schools surveyed for new machinery and tools each year. Permission from the principal for orders over $10.00 is required for 28 per cent of the teachers answering the questionnaire blank. Physical education is the most popular subject taught in conjuction with Industria Arts teachers.

ADVISOR'S APPROVAL C. E. Hoffman

A SURVEY OF SECONDARY INDUSTRIAL ARTS CLASSES IN KANSAS WITH EMPHASIS ON FISCAL POLICIES

A SURVEY OF SECONDARY INDUSTRIAL ARTS CLASSES IN KANSAS WITH EMPHASIS ON FISCAL POLICIES

By

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Bachelor of Science

East Central State College

Ada, Oklahoma

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Submitted to the Department of

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Oklahoma Agricultural and Mechanical College

In Partial Fulfillment of the Requirments

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BOB BARTLETT

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B. R. B.

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CHAPTER I

INTRODUCTION

Industrial Arts shops, like other well planned institutions must be operated on sound financial policies. This report is a survey of the financial policies as they were reported by two-hundred and twenty-six teachers employed in secondary schools of Kansas. It is hoped that the information contained in this report will lead to a clearer understanding of the problem and thus increase the effectiveness of a teachers methods of teaching.

Need For The Study. The reasons for this study may be classified into four parts. First, to introduce a few of the problems and methods used in solving them tothe undergraduate who is planning to become an industrial arts teacher. Secondly, to acquaint the experienced teacher with the methods being practiced by other teachers in the same field. Third, to acquaint the administrator with fiscal problems which are being used in the other school shops. Fourth, since there is very little literature, in any form, which actually deals with the fiscal problems encountered in the shop, the writer felt this subject would be of interest to other instructors who have been confronted with problems of similar nature.

Techniques Used. Of the various research techniques used in acquiring information, the main portion of this research problem was gained through the questionnaire. The great distances which would have to be traveled, the time involved and the expense encountered, eliminated other research techniques which may have been used in gathering this information.

A complete list of all industrial arts teachers, the subjects being taught and the grade levels were found in the Curriculum Department of the office of the State Superintendent of Public Instruction in Topeka, Kansas. The question blanks were printed by set type and mailed to 309 industrial arts teachers in the secondary schools of Kansas.

The writer, however, used the library method as a second source of acquiring information. As was mentioned previously, there were no books dealing directly with fiscal problems in industrial arts.

Validity of Data Received from the Questionnaire. Of the 309 questionnaires mailed, returns were received from 226 industrial arts teachers or 74.62 per cent returns. All teachers surveyed held a minimum of a Bachelors' Degree, with eighteen teachers reporting to have their Masters' Degree.

One teacher gave his own rather critical views toward boards of education policies of furnishing supplies, since he was not going to teach in the same system the coming year.

He stated, "I feel this causes waste on the students part and is no way to conduct a shop class....A poor system, but that's an idea of the boards."

Similar Studies. Emerson, in his study, Problems of Purchasing, Issuing and Accounting Relating to Supplies Used In Industrial Arts Classes In Oklahoma: (9 pages 34-54, 1940) surveyed one-hundred schools which offered industrial arts as a part of their curriculum. Emerson found most supplies were bought by requisition or by competitive bids in the larger systems. Two commonly used percentages in deriving the "mark-up" of the selling price of lumber to cover waste were: 33 1/3 and 24 per cent. He also found that less than one half of the schools received any appropriations for machinery, hand tools and maintenance in the 1939-40 school budget.

Anderson, in his Payment For Materials In Industrial Arts Courses: (1 pages 48-49) surveyed the shops in the state of Wisconsin. The survey covered the various fees charged, in which shops, and when and how fees were collected.

Young, in his report entitled Survey of Industrial Arts Teacher Combinations In Oklahoma Schools In 1947-48: (10 pages 32-44) made a survey of seventy-four counties in Oklahoma. His study indicated that only 167 industrial arts teachers out of 364 studied, teach full time industrial arts. He also showed the teaching combinations, number of students enrolled and the degrees held by these 364 teachers.

CHAPTER II

FINANCIAL PROBLEMS IN INDUSTRIAL ARTS

During the course of a teaching year, many problems arise, particularly those relating to the fiscal policies of the industrial arts department. Some of which are: how much shall be charged for materials used by the student? What will it cost to keep up the shop each year? How do other teachers solve these and many other pertinent shop problems? These are just a few of the many questions asked by the instructor and moreover by the administrator who is vitally concerned with the finances of his school.

Are Shop Fees Charged To Help Meet Expenses? In tabulating the replies to the questionnaire, it was found that shop fees were charged. Those schools which answered yes, however, were in the minority. Of the 226 schools surveyed, only 35.0 per cent indicated the use of such fees. The range being from twenty-five cents, which was called a book fee, to $10.00 per year in the advanced woodworking classes. Thus leaving one-hundred and forty-nine schools or 65.0 per cent which stated that no charge was being made.

Anderson, through a similar study in Wisconsin, in 1950, disclosed the average charge in nine different shops were,

according to the following table: (1 pages 48-49)

AVERAGE FEE CHARGED BY NINE DIFFERENT SHOPS

Shop Title	Number of Cases*	Average Charge
Cabinet Making	9	$3.81
Woodwork	28	3.03
Machine Shop	13	2.19
Metal Shop	20	1.58
Electrical	9	1.50
General Shop	10	1.26
Farm Shop	5	.85
Drafting	18	.63
Printing	4	.05

*Indicates shops where no charge was made

In the distribution, seven schools used the fees to pay for finishing materials. Thirty-seven schools used the fees in payment for small items such as dowels, glue and sandpaper. Seven schools stated they used the extra money to balance the lumber bill.

Obtaining Permission for Large Orders. All woodworking shops must, at some time, purchase supplies totaling more than $10.00, as indicated by this minimum stipulated in the questionnaire. It was found that most teachers were not required to obtain permission for purchases over that amount. In four cases, the principal or superintendent taught the class, making verification unnecessary. Thus leaving 151 other schools which stated it was unnecessary to ask permission for the purchasing of supplies. Conversely, sixty-five schools reported it to be compulsory, leaving four schools which failed to answer.

It may be assumed, that of the four schools not answering, had departmental heads as shop instructors who did all the ordering. Such situations were found to exist in Wichita, two from Kansas City, Kansas, and one from a vocational high school in Windfield, Kansas.

Amount of Money Appropriated by the School for Departmental Support. In a review of the questionnaires returned, it was found that only 35.0 per cent of the schools surveyed received any appropriations from the school budget, leaving 65.0 per cent who were using the self-liquidating plan.

Of the seventy-nine or 35.0 per cent of the cases where support was given, the amount ranged from $100.00 to $1,000.00 per year. Several teachers disclosed there was a budget for machinery, but not for expendable items. Two teachers reported a budget was to be prepared for the coming year, but they were not bound to it.

The Absorption of the Freight Bill. There are various methods for reimbursement of freight bills. The most common and logical being to add it to the price of the material. This is the method followed by 80.8 per cent of the schools replying to the question blank. Another practice which is followed by 12.3 per cent of the schools is that of the school assuming the responsibility of payment for all freight bills. There were eight schools which had no separate freight charges as far as lumber is concerned since they bought all supplies locally. It was also found

that in four schools the students furnished their own supplies; thus eliminating any financial responsibility on the part of the school. Two instructors added 10 per cent to the total cost of each project to cover the cost of freight.

Placing of Responsibility for Payment of the Lumber. In an examination of the inquiry form, it was found that 167 schools pay all lumber bills thirty days from the date of invoice, while twenty-two schools charge the lumber until the end of the term. Of these twenty-two schools the lumber was either bought from local concerns, or from independent jobbers. Seventy-five per cent of the schools investigated, reported the payment of cash as soon as the materials were delivered. Six teachers disclosed that all materials were paid from a special activity fund. In these six schools it was the teacher's responsibility to see that the fund had been reimbursed by the end of the school year. In five cases examined, it was found the student must furnish his own lumber. This method has some objectionable features. There are found to be instances under this plan, when a student cannot work because of unavailability of materials. On the other hand, this method is of minimum inconvenience to the school and surely the pupil gains much valuable "consumers knowledge" by buying his own supplies. The advantages and disadvantages were stated very clearly in Ericsons' book,

Teaching the Industrial Arts. Ericson has this to say about the student purchasing his own supplies, (3 page 133),

> "Those in favor of such procedures, it might be stated: (1) The student feels more responsible for his work if he must pay for the materials; (2) Less material will be wasted and better habits of thrift and considerations are developed; (3) The per capita cost to the school will be lessened, resulting in fewer objections by tax payers in general to the high cost of schooling; (4) What ever is made on the individual basis will become the property of the student and always will be worth more than materials; (5) Students will be less likely to be over ambitious in selecting large projects for construction; and (6) They will not insist on working with unnecessary expensive materials."

Conversely, Ericson has the following statement:

> "In arguing for free materials, it might be said that; (1) Some of the best students who could finish larger and more attractive articles must work on unimportant jobs because they cannot afford to pay the price of materials; (2) Public schools should offer opportunities to rich and poor alike in the workshop as well as in other instruction; (3) Many of the students come to the school shop and charging for materials is a cause of discouragement and keeping down the enrollment."

The least common practice, fortunately, is that of the teacher assuming the responsibility of paying for the lumber, as was the practice in three schools studied.

Tabulating the Students Lumber Bill. There are various methods by which the lumber bills are tabulated. According to the survey the most common practice, by 42.6 per cent, is to allow the student to figure the cost of his own project and the teacher checking for accuracy. Another,

which is equally popular, is by the combined efforts of the pupil and teacher. In ten schools, it was found that the student alone did all the figuring. However, this practice can only be carried out satisfactorily in the smaller classes. In this category, all but two schools had less than twenty-two students enrolled. There were five schools which did not figure the cost of the project since the student furnished his own lumber.

Methods of Charging for Waste. It would seem there were as many different ways of charging for waste as there were schools. In table I, the writer merely tabulated the answers as they occurred in the returns.

TABLE I

METHODS OF CHARGING FOR WASTE IN ORDER OF THEIR OCCURRENCE

Methods	Frequencies
Total cost of project plus 10%.	49
Total cost of project plus 20%.	39
Paid in cost of rough lumber.	34
Increase the price of lumber $.05	21
Increase the price of lumber $.30	14
Total cost of project plus 25%.	14*
Actual cost of project plus 33 1/3%	14*
Actual cost of project plus 15%	10
No extra charge for waste	10
No charge, student furnishes.	5
Actual cost of lumber plus $.03	4
Actual cost of project plus 5%.	4
Total cost of materials plus 10%-20%.	3
Total cost of materials plus 1%	1
Add one board foot to cost of project	2
Add one inch to each dimension.	1

* Also includes the cost of finishing

Methods of Charging for Small Supplies. As one might suppose there were various ways of charging for small materials. For simplicity in tabulating the replies, small expendable items were divided into four categories as follows: sandpaper, glue, dowels and screws.

The methods of assessing pupils for materials used in shop courses in Wisconsin according to Anderson, parallels those of Kansas, (1 pages 48):

> "Do pupils generally pay for small materials used in the shop courses? In all but one city, high school pupils taking Industrial Arts subjects paid for materials used. The seventh and eighth grade shop classes were not assessed in the other community.
>
> Nearly 88 per cent of the teachers, according to Table I, indicated that charges were determined on the basis of materials used, while only 4.2 per cent had a flat course fee. A combination of these two methods were used by 7.9 per cent.

(Table) 1. BASIS FOR DETERMINING CHARGES IN SHOP COURSES.

	Number	Per Cent
Flat Fee	3	4.2
Materials Used	63	87.5
Fee and Materials	6	7.9
Total	72	99.6

Various other replies listed in the questionnaire are ranked according to item, number of times occurred and the rank according to use.

TABLE II

METHODS OF CHARGING FOR SANDPAPER

Method	Frequencies
Included in the 20 per cent finishing cost	17
Estimated	15
Flat Fee Charged	11*
No Answer (Charge Indicated)	10
Use Shop Supply Card	6
Sold in Sheets to Students	2
Cost of Project plus 5 per cent.	1
Charge of $1.00 for Sandpaper and Glue	1

* One teacher reported that his charge per semester was: sandpaper, 35¢; screws, 50¢ and glue, 30¢.

TABLE III

METHODS OF CHARGING FOR SCREWS

Method	Frequencies
Estimated	13
Student Furnishes	13
Included in Course Fee.	11
No Answer (Charge Indicated)	10
Cost of Project Plus 5%	1

TABLE IV

METHODS OF CHARGING FOR GLUE

Method	Frequencies
Included in Course Fee.	.23
Estimated	.23
Included in the 20%-30% Finishing Cost.	.21
Student Furnishes	6
By the Project	4
Per Ounce or Pound.	5

TABLE V

METHODS OF CHARGING FOR DOWELS

Method	Frequencies
Included in the 20% Finishing Cost.	.21
Estimated	.16
Course Fee Covers	.14
Charge of 1¢ Per Inch	8
Student Furnishes	7
Charge of 4¢-5¢ Per Inch.	6
By the Project.	2

In examining the returns, it was found the most popular method used in charging for sandpaper, glue, screws and dowels, was by adding the exact cost of the small expendable items to the cost of the project. The second most popular

was to include all the small items in the actual cost of the project plus five to ten per cent. Finally, the third most popular method in the reimbursement for small supplies was for the items to be furnished by the board of education.

Methods Of Charging for Finishes. Methods of assessing the finishing cost varied greatly. There were twelve different methods being praticed in the state of Kansas. Table VI, lists those methods and ranks them according to frequencies.

TABLE VI

METHODS OF TABULATING THE FINISHING COSTS

Method	Frequencies
Estimated	74
Total cost of project plus 10-20 per cent.	43
Charge 10¢ to 15¢ per square foot	23
Charge 5¢ to 7¢ per square foot	15
Student furnishes	14
No charge, furnished by school board	12
Charge of 1¢ to 3¢ per square foot	11
Total cost of project plus 25-30 per cent.	11
Course fee finishing costs	7
Charge per gallon or tank used	6
Set price per project	6
Charge of 30¢ per square foot	1

In Table VI, the charge of from one cent to three cents was made by the school which used the cheaper forms of finishing such as floor or gym seal. Also the charge per gallon or per tank, was used in situations where the finish was sprayed on.

Allocating Money for New Machinery and Tools. It would cost several thousand dollars to fully equip a shop as it should be. Since schools usually do not have this money readily available, small appropriations, therefore, must be put to their best use. Emerson explains that (9 pages 54):

> "It is well for the instructor to plan the addition of a few pieces of new equipment from year to year. The essential needs should be determined by the instructor and with the additions to be requested each year until the necessary equipment, to fill the need, has been procured. It is recommended that this system to be used in obtaining new equipment."

The questionnaire revealed that 30.5 per cent of the schools surveyed do receive annual amounts of money each year. One-hundred and thirty-nine or 61.0 per cent of the schools surveyed stated they received no extra funds. Eighteen teachers indicated funds were not appropriated, but when actual need occurred funds were allotted. A revolving fund was stated to be in use in six schools providing funds to be used as the need arises.

Summary. It has been the purpose of this chapter to give a brief look at the problem confronting the industrial arts

teacher during a normal teaching year. The methods of solving these problems by experienced teachers has been given in order to furnish some basis for establishing a satisfactory financial policy. It has been found that:

Shop fees were not charged in the majority of the schools. Where fees were charged the range was from twenty-five cents to ten dollars in the advanced cabinet making classes.

Furthermore, most teachers were not required to obtain permission for orders under $10.00. Only 28 per cent of the schools surveyed reported it to be compulsory.

The majority of the shops received no annual funds for upkeep or new tools. Of the 35.0 per cent where support was given, the amount ranged from $100.00 to $1,000.00 per year.

In 80.8 per cent of the schools surveyed, the freight bills were added to the price of the material. A few of the schools assumed the responsibility of payment for all lumber bills.

A majority of the schools pay all lumber bills within thirty days of purchase. Sixty-five per cent of the schools investigated, reported an immediate payment in cash. In three schools studied it was the teacher's responsibility to pay for all lumber.

Waste charges were usually tabulated by totaling the cost of the project and adding a percentage ranging from ten to thirty-three and one-third per cent.

The methods of figuring small items according to the frequencies used were: (1st.) Sold at exact cost, (2nd.) Adding 5 per cent to the total cost of the project and, (3rd.) The board of education furnishes.

Methods of assessing the finishing costs varied greatly. The most popular method used was by adding a percentage to the total cost of the project which includes waste. Where the finishing materials were sprayed on, the finish was sold by the gallon or by the cost per can which fits the spray gun.

Only 30.5 per cent of the schools surveyed, reported the allotment of funds each year for new machinery with 61.0 per cent stating they received no funds.

CHAPTER III

SOURCES AND KINDS OF MATERIALS USED IN KANSAS INDUSTRIAL ARTS SHOPS

In this chapter, it is the aim of the writer to acquaint the reader with the construction materials and finishes used everyday in the industrial arts departments of secondary schools in Kansas. It is the hope of the author that the information contained in this chapter will help instructors, especially those preparing to teach woodworking, to increase their working knowledge of the materials used in their field.

Sources of Lumber Supplies. Through the questionnaire, it was found that the Paxton Lumber Company furnished 82.7 per cent of the lumber used in the Kansas schools studied. Forty-two schools or 18.5 per cent purchased all lumber locally. Instructors in fourteen schools stated they purchased their lumber from the Standard Hardware and Supply Company of Tulsa. The Ben Miller Lumber Company of Kansas City, Missouri, received orders from twenty-one schools with C. A. Petefish, an independent jobber from Alba, Missouri, furnishing lumber for ten schools. There were bids taken from the larger schools by departmental heads, thus the instructor failed to know the source of his lumber supply. Broadhead-Garrett furnished lumber for six schools, with six other teachers stating they received their lumber from local sources.

Kinds of Lumber Being Used in Kansas Schools. In Table VII, the lumber is ranked in descending frequencies according to the number of times it appeared in the survey returns.

TABLE VII

WOODS USED IN THE INDUSTRIAL ARTS DEPARTMENTS IN SECONDARY SCHOOLS OF KANSAS

Kinds of Lumber	Frequencies
Walnut	214
White Oak	165
Maple	146
Mahogany	124
Korina	65
Cedar	48
Cherry	42
Gum	40
Ash	39
Birch	34
Willow	20
Sycamore	14
Elm	10
Beech	9
Poplar	9
Birds Eye Maple	8
Fir	7
Magnolia	7
Red Oak	6
Red Wood	4
Hickory	2
Cypress	2

In examining Table VII, it would appear that an average shop would be using walnut, white oak, hard maple and mahogany as those woods appeared more frequently than did an any of the others.

Kinds of Finishes. There were seven different types of finishes reported to be in use in Industrial Arts departments in Kansas. Fifty-eight schools stated they relied solely on varnish. Returns from thirty-six schools indicated the use of three finishes, lacquer, varnish and shellac. Lacquer and varnish finishes were used in twenty-six schools. Sprayed lacquer is used exclusively by twenty-four instructors. Eight schools used brush type lacquer together with shellac, with four schools using shellac by itself. Two schools reported no finish was being used in their shops. One of the two stated his shop had a dirt floor, thus eliminating any possibility of finishing projects.

Do-It-Yourself Projects, Commonly Known as "Kit" Projects.

There are two types of "kit" projects reported to be in use in the Kansas schools, according to the survey. The most common are the knock-down cedar chests, costing from $8.00 to $24.00, depending on the size and the design. The other reported kits range in price from the $25.00 row-boats to the $400.00 speed boat.

There seems to be a strong resentment against the use of "kit" projects in the school shop, since 75.5 per cent of the teachers which did not use them, and stated so very definitely.

The reasons being, such projects do not fit the aim and purpose of the industrial arts program.

Summary. Of the 226 woodworking shops surveyed in this report, the Paxton Lumber Company furnished lumber for 82.7 per cent. Eighteen and one-half per cent of the schools surveyed purchased all lumber from local concerns.

Of the twenty-five types of woods listed in the returns, it was found that walnut is being used in 214 of 94.6 per cent of the schools. The three other popular woods used by a majority of the schools are white oak, hard maple and mahogany.

There were seven types of finishes stated to be in use, the most common being a combination shellac and varnish. Twenty-four or 10.6 per cent used sprayed lacquer exclusively. Two teachers disclosed that finishes were not used in their shop because of poor physical conditions of the shop.

"Kit" projects were not permitted in 171 or 75.5 per cent of the schools surveyed.

CHAPTER IV

VERSATILITY OF INDUSTRIAL ARTS TEACHERS

This chapter deals with the various teaching combinations of the 226 industrial arts teachers surveyed in this report. Perhaps the undergraduate who plans to teach industrial arts will have a better opportunity to secure a teaching position when he graduates if he is also qualified to teach in some other field.

Related Subjects Taught By Industrial Arts Teachers. Table VIII, shows the related subjects taught by industrial arts teachers and their frequency of appearance. Only 78 or 34.3 per cent of the instructors surveyed, teach only subjects related to industrial arts. The names given in the table are identical to those given in the returned inquiry forms.

TABLE VIII

SUBJECTS TAUGHT IN INDUSTRIAL ARTS CLASSES

Name Given to Class	Frequencies
Woodworking I.	206
Woodworking II	127
Drafting I	113
Woodworking III.	80
General Shop	24
Welding.	23
Crafts	19
Metal Shop	15
Auto Mechanics	9
Drafting II.	5
Plastics	4
Carpentry.	3
Electricity.	3
Architecture Drawing	2
Machine Shop	2
Others	8

Subjects Not Related to Industrial Arts, But Taught By Industrial Arts Teachers. According to the question blanks returned, the average number of students enrolled per school in industrial arts is 45.50. Due to the large enrollments and the shortage of teachers, it is a necessity that teachers should be able to teach in more than one subject.

Table IX lists those subjects being taught in conjunction with Industrial Arts and the number of times that subject appears.

TABLE IX

UNRELATED SUBJECTS TAUGHT BY THE INDUSTRIAL ARTS INSTRUCTOR

Subject	Frequencies
Physical education and coaching	66
Driver education	32
Science	17
Biology	16
History	15
Mathematics	14
Algebra	13
Geometry	10
Health	10
Physics	10
Civics	9
English	4
Vocational guidance	4
Agriculture	3
Others	9

According to the survey the two most popular subjects taught in conjuction with industrial arts are physical education and driver education. According to Kezer's survey in 1939, the subjects most taught in conjuction with industrial arts was mathematics. According to Table IX, mathematics had dropped to sixth place. However, the locality of the survey would possibly be a significant factor in determining a teacher's teaching combinations, since Kezer's report surveyed secondary schools in Oklahoma and the writer surveyed the secondary schools in Kansas.

CHAPTER V

SUMMARY, CONCLUSIONS

Shop fees were charged in a minority of the schools surveyed, ranging from twenty-five cents to ten dollars per semester.

Only 28 per cent of the schools investigated received annual appropriations ranging from $100.00 to $1,000.00 per year.

Of the schools surveyed, 80.8 per cent added the freight to the price of the material. Very few schools pay freight bills for the industrial arts department.

Lumber waste was figured by adding a percentage to the total cost of the project, usually 33 1/3 per cent.

Most of the small items such as screws, glue, dowels and sandpaper, were sold at cost to the student or by adding five per cent to the total cost of the project.

A majority of the finishing costs also were figured by adding a percentage to the total cost of the project.

About eighty-three per cent of all lumber was purchased from the Paxton Lumber Company, with approximately 18.0 per cent stating they purchase all lumber from local concerns.

The most popular wood used by the Kansas schools is walnut, white oak and hard maple; in that order.

Varnish was used in more schools surveyed than any other type of finish. A combination of varnish and shellac

ranked second. Lacquer is only used by twenty-four instructors.

"Kit" projects were found to be objectional by 75.7 per cent of the teachers answering the questionnaire.

Thirty-four of the teachers surveyed teach only subjects relating to Industrial Arts. The most popular is Woodworking I, Woodworking II and Mechanical Drawing; in that order.

The most popular unrelated subject to industrial arts is physical education and driver education; in that order.

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APPENDIX

AXTELL, KANSAS
April 18, 1956

Dear Sir,

Enclosed is a questionnaire which I hope to make a survey of the Industrial Arts classes in Kansas.

The survey is a part of a two hour report in order to complete my Masters Degree at Oklahoma Agriculture and Mechanical College this summer.

I am particulary interested in the financial part of the shop, such as whether or not your school charges a shop fee to help take care of expenses.

Your earliest cooperation in this matter would be greatly appreciated as it will take some time to tabulate them.

Sincerely,

Bob Bartlett

Bob Bartlett

Name _____ _____, **Kansas** _____ **School**

1. **Approximately how many students are currently enrolled in your Industrial Arts classes?** _____
2. **Does your school charge a "shop fee" to help meet expenses?** _____
3. **From what company do you order your lumber?** _____
4. **Does the school pay for the lumber or is it charged to the school till the end of the term?** _____
5. **How do you charge for waste on a particular project?** _____
6. **What types of hardwood lumber is your shop using this year?** _____
7. **What types of finish do you use, such as varnish, shellac, etc.?** _____
8. **If the finish is not furnished by the student, how do you charge for it?** _____
9. **Is your shop limited to a budget?** _____
10. **Does the school pay the freight bill on lumber or is it added on the price of the lumber?** _____
11. **If the student does not buy a full sheet of hardwood plywood at one time, how is waste charged?** _____
12. **Who figures the student's lumber bill?** _____
13. **How do you charge for small items such as screws, glue, dowels and sandpaper?** _____
14. **Is your shop alloted so much money each year for new machinery and tools?** _____
15. **Have you ordered any new tools or machinery this year?** _____
16. **Are you required to get permission from your superintendent for orders under $10.00?** _____
17. **Have your students ordered any "Do-it-yourself" projects this year?** _____
18. **What subjects are you now teaching which can be classified under Industrial Arts?** _____
19. **What subjects are you now teaching which are not classified under Industrial Arts?** _____
20. **From what college or university did you receive your Bachelor of Science Degree?** _____

VITA

Bob R. Bartlett

Candidate for the Degree of

Master of Science

Thesis: A SURVEY OF SECONDARY INDUSTRIAL ARTS CLASS IN KANSAS WITH EMPHASIS ON FISCAL POLICIES

Major Field: Industrial Arts Education

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Education: Attended grade school in Seminole and Norman, Oklahoma; graduated from Ada Senior High School in 1950; received the Bachelor of Science degree from East Central State Teachers College, with a major in Industrial Arts, in January, 1954; complete requirements for the Master of Science degree in August, 1956.

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REPORT TITLE: A SURVEY OF SECONDARY INDUSTRIAL ARTS CLASSES IN KANSAS WITH EMPHASIS ON FISCAL POLICIES

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TYPIST: Carolyn Norris