

1980

## **A Study of Methods and Strategies Utilized by Supervisors and Teachers for Revision, Update and Modernization of Industrial Arts Subject Matter in Tidewater, Virginia Public Schools Systems**

Richard L. Hicks  
*Old Dominion University*

Follow this and additional works at: [https://digitalcommons.odu.edu/ots\\_masters\\_projects](https://digitalcommons.odu.edu/ots_masters_projects)



Part of the [Education Commons](#)

---

### **Recommended Citation**

Hicks, Richard L., "A Study of Methods and Strategies Utilized by Supervisors and Teachers for Revision, Update and Modernization of Industrial Arts Subject Matter in Tidewater, Virginia Public Schools Systems" (1980). *OTS Master's Level Projects & Papers*. 509.  
[https://digitalcommons.odu.edu/ots\\_masters\\_projects/509](https://digitalcommons.odu.edu/ots_masters_projects/509)

This Master's Project is brought to you for free and open access by the STEM Education & Professional Studies at ODU Digital Commons. It has been accepted for inclusion in OTS Master's Level Projects & Papers by an authorized administrator of ODU Digital Commons. For more information, please contact [digitalcommons@odu.edu](mailto:digitalcommons@odu.edu).

**A STUDY OF METHODS AND STRATEGIES  
UTILIZED BY SUPERVISORS AND TEACHERS FOR REVISION,  
UPDATE AND MODERNIZATION OF INDUSTRIAL ARTS SUBJECT MATTER  
IN TIDEWATER, VIRGINIA PUBLIC SCHOOLS SYSTEMS**

---

**A Research Paper  
Presented to  
The Faculty of the School of Education  
Old Dominion University**

---

**In Partial Fulfillment  
of the Requirements for the Degree  
Master of Science in Education**

---

**by  
Richard L. Hicks**

**April 1980**

This research paper was prepared by Richard L. Hicks  
under the direction of Dr. John M. Ritz in VIAE 636,  
Problems in Education. It was submitted to the Graduate Program  
Director as partial fulfillment of the requirements for the  
Degree of Master of Science in Education.

APPROVED BY:

John M. Ritz

4-16-80

Dr. John M. Ritz

Date

Advisor

Graduate Program Director

Vocational and Industrial Arts Education

## ACKNOWLEDGEMENTS

The researcher is sincerely grateful for the assistance and guidance of Dr. John M. Ritz in the conduct of this study. Dr. Ritz's assistance and sympathetic rapport have been most encouraging and a constant source of support. He was of great assistance in the successful completion of this study.

My particular and special thanks to my wife for her patience, excellent critical assistance and understanding during the trying times and support in my efforts to complete the research of this study.

## TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS . . . . .	iii
TABLE OF CONTENTS . . . . .	iv
LIST OF TABLES . . . . .	vi
 Chapter	
1. INTRODUCTION . . . . .	1
Statement of the Problem . . . . .	2
Research Questions . . . . .	3
Background . . . . .	3
Instrumentation . . . . .	6
Assumptions . . . . .	6
Limitations . . . . .	7
Definition of Terms . . . . .	7
Summary . . . . .	8
2. REVIEW OF RELATED LITERATURE . . . . .	11
Summary . . . . .	16
3. METHODS AND PROCEDURES . . . . .	18
Selection of the Population . . . . .	18
Procedures for the Survey . . . . .	19
Statistical Procedures . . . . .	19
Summary . . . . .	20

Chapter	Page
4. FINDINGS . . . . .	21
Trends . . . . .	22
Summary . . . . .	28
5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS . . . . .	32
Summary . . . . .	32
Conclusions . . . . .	33
Recommendations . . . . .	35
BIBLIOGRAPHY . . . . .	38
APPENDICES	
A. SURVEY INSTRUMENT . . . . .	40
B. LETTER TO PARTICIPANTS IN THE STUDY . . . . .	42
C. FOLLOW-UP LETTER TO NON-RESPONDING PARTICIPANTS . . . . .	43

## LIST OF TABLES

Table	Page
1. School Systems Industrial Arts Teacher Population . . . . .	23-24
2. Senior and Junior High School Industrial Arts Teacher Population . . . . .	25
3. Industrial Arts Tabulation Results . . . . .	29-31

## CHAPTER I

### INTRODUCTION

The Commonwealth of Virginia Industrial Arts curriculum guide was prepared to assist the Industrial Arts teacher in presenting a program based upon technology. The guide serves the teacher of the courses "Exploring Technology" and "Modern Industry and Technology". Because it presents a system of providing for content rather than presenting content, it can be used by teachers of any course (Department of Education 1978:i).

In accord with the curriculum guidance provided by the Virginia State Department of Education and university guidance, the Tidewater, Virginia secondary school systems present a limited basic study of the technical subject areas. Industrial Arts subject material included in the local curriculum guides for the secondary grades is identified as pre-technical and basic. An advanced or in-depth technical study is available at the vocational training centers.

An auspicious review of the Industrial Arts curriculum for the secondary junior high grade levels indicate a limited basic theory introduction that includes a selected hand tool identification and basic skill development indoctrination. At this level these exploratory programs are fairly well structured and accepted as an integral part



of the curriculum. The senior high level provides the actual contact with people engaged in a wide variety of occupations and the student is provided with the educational requirement for entry into advanced vocational training and various occupation fields.

To complement the teachers and assist the coordinator, a curriculum committee for Industrial Arts education is appointed. This teacher orientated committee serves as an advisory for curriculum content review and update. The curriculum committee members are selected for their wide range of experience, competence, and interest in the subject matter.

#### STATEMENT OF THE PROBLEM

Educators and the public are acutely aware that something is wrong with our system where the economic area demands a constantly increasing number of skilled craftsmen and technicians to man its shops, industries, and laboratories, while the educational system which presumably serves it continues to grind out a mixed bag of dropouts and graduates, both unprepared to fill the positions created by our expanding technology. We have watched colleges fill up with misfits, who in turn become first or second semester dropouts. After each June graduation we watch the unemployment and welfare rolls swell while the federal manpower programs attempt to salvage human material which should never in the first place have been damaged by apathy, frustration or despair.

The problem of this study was to conduct a local survey to identify and analyze Industrial Arts teachers' participation and attitude toward Industrial Arts curriculum committee membership and objectives in Tidewater, Virginia schools. It was hoped that data could be gathered to determine whether the curriculum is in need of revision to update it to present curricular trends.

#### RESEARCH QUESTIONS

In order to consider what subject matter could or should be included into an Industrial Arts curriculum for modernization, the following questions should provide direction for planning.

1. Who should be included on a curriculum committee?
2. Who should provide the curriculum committee with leadership and dominate direction?
3. Who should be responsible for setting goals for curriculum review or revision?
4. What strategies are employed by a curriculum committee to include and exclude subject material?
5. Should the Industrial Arts subject area include a technical advisory committee?

#### BACKGROUND

Many of the problems which have plagued Industrial Arts and Technical Trade education have appeared as the result of improperly

developed curricula. Partly because we are Johnnys-come-lately in the educational field and partly because, until recently, we have had only a small percentage of members with respectable academic credentials, we have been considered fair game for everyone who felt he or she had a mission to improve our offerings. Bits and pieces of curriculum, usually in the form of outlines of courses of study, have appeared from diverse sources, often far removed from the situations in which they were to be used.

For years teacher educators in trade and industrial and technical education have commented on the lack of literature written expressly for use in the unique nature of these areas of education, while teaching from or referring to books intended for use in other fields. The failure in the past to remedy the situation may be attributed to the press of our duties or, less charitably, to unwillingness to devote the time necessary to preparation of appropriate industrial technical texts.

The temptation to transfer responsibility for educational planning to increasingly remote units of government is an unfortunate corollary to our otherwise laudable acceptance of the interdependence of individuals, states, and nations. As the complexity of American life increases, we can anticipate still greater pressures toward national planning and away from the local control which has been a distinguishing characteristic of our educational system. Such a loss would be more acceptable if it were possible to believe (1) that the best talent in education is gathered in our state and national

capitals, and (2) that anyone is capable of developing and executing plans equally adaptable to all local situations.

The development of curriculum is essentially a local problem. There are no overriding national priorities which could either explain or excuse our acceptance of an externally dictated curriculum; but there are local and area priorities which must be basic considerations in the establishment of any successful program.

But curriculum development involves far more than the mechanical process of course construction. The curriculum planner needs to understand the situation as it exists. There is ample room for the idealist in Industrial Arts education but no room at all for the uninformed. Anyone who proposes to concern himself with the development of curriculum needs to be fully aware of all the factors which closely affect the total Industrial Arts program - of the forces which have shaped it and those which continue to affect it.

Curriculum must be developed to meet the needs of the student rather than the desires of the developer. No textbook theories or calculated formulas can replace the in-depth study of local interests, resources, economy, industry, finances, and the cultural and intellectual level of the student population.

Industrial Arts curriculum must be developed by those who know the fields of study involved through work experience. Any amount of technical assistance with problems involving English usage or the application of principles of learning may be provided by others.

But no one should be actively engaged in the development of trade and pre-technical curriculum unless he understands and accepts the Industrial Arts philosophy.

#### INSTRUMENTATION

Industrial Arts teachers were mailed a brief and easy-to-answer questionnaire asking to consider policy to determine responsibility for review and revision for the Industrial Arts curriculum. However, it was important that the instrument be concise, yet extensive enough to elicit responses the researcher could identify and develop into viable strategies that would be used to provide valid recommendations to school curriculum supervisors and committees for consideration and adoption.

#### ASSUMPTIONS

The following assumptions are considered prior to this study:

1. That college and university Industrial Arts teacher education institutions include courses that provide subject matter sufficient to stimulate independent and creative thinking.
2. That college and university Industrial Arts teacher education institutions in the State of Virginia provide curriculum development undergraduate and graduate courses.

3. That college and State Department of Education provide updated information on what should be taught in secondary schools.

4. That the information derived from this study will be provided for utilization of Industrial Arts curriculum development and teacher education information.

#### LIMITATIONS

1. This survey of Industrial Arts teachers will be limited to the school systems within the Tidewater area to: Virginia Beach, Norfolk, Chesapeake, and Hampton.

2. The analyses of the survey will be limited to the information gathered by the instrumentation of the study from Industrial Arts teachers currently and actually employed within a school system.

#### DEFINITION OF TERMS

To clarify the meaning of certain terms associated with this study, the following information is provided:

1. Industrial Arts Education - those programs of instruction which are specifically aimed at providing pre-technical salable occupational skills.

2. Curriculum Committee - group or designated body of teachers within the Industrial Arts discipline organized for the purposes of curriculum study and revision.

3. Methodology - the science of orderly arrangement of logic concerned with application of the principles of reasoning.

4. Strategies - the science of planning and directing a plan of action especially the actual engagement of maneuvering to gain an advantage.

5. Technology - preceded automotion as the key word for the age of the machine and man's shaping of the natural environment.

6. Curriculum - all the courses of study at a school developed around a hierarchy of concepts through the inclusion of the same subjects or topics at various grade levels and at correspondingly varying levels of depth and sophistication.

7. General Education - that vast area of the school program which primarily concerns itself with the development of common understandings throughout the period of formal education.

8. Advisory Committee - group of community-minded individuals representing the closest possible harmony with the actual work content of the trade, industry, or technical area.

#### SUMMARY

This chapter introduced the subject of concern. Who is responsible and who supervises the Industrial Arts curriculum for content update and review in the public secondary school system? Does the curriculum content reflect up-to-date technological advances in industry?

The problems posed by the obvious need for change will weigh most heavily upon the individuals charged with the development of a curriculum. Change is almost always opposed - frequently from fear of the unknown or on the general assumption that the new could not possibly be as good as the old.

The changes in our economy may not have convinced the public, but Industrial Arts educators have been forced to accept a new definition of our role in public education. We can no longer justify training only those who are capable of achieving entry-level proficiency in specified trade or technical areas. The demand for workers in the service end of industry and business has expanded enormously in recent years. Since we know that the ranks of service station attendants, repairmen, mechanics, and countless other jobs are going to be filled by the products of our schools, we must expand and update our curriculum to meet the need for the semi-skilled as well as the skilled worker.

The following chapters will look at current writing on teacher education to review the status of Industrial Arts vocational education curriculum modernization. Pertinent information and surveys on Industrial Arts education will be included to provide continuity in this chapter.

A chapter will develop the direction to be undertaken in the survey for revision of curriculum subject matter in order to provide a current and up-to-date program, and another chapter will



develop the data gathered by the questionnaire. This chapter will interpret the information from the Industrial Arts educators who were surveyed. A correlation between strategies and individual and independent ideas expressed shall be evaluated.

The final chapter will summarize the data developed by the study, present a conclusion from the findings, and make recommendations for viable and dynamic strategies to include the latest state of the arts to stimulate creative thinking.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

In times past, the link between industrial-vocational education and the liberal arts was tenuous at best. Classicists stressed the value of learning as an end in itself and in many systems this trend prevails. The utilitarian value of educational industrial technology is only now being emphasized because of increased concerns in changing societal needs.

It was largely this concern with meeting the changing requirements of a post-industrial society that prompted Congress sixteen years ago to urge vocational leaders to respond to the unmet needs of youth and society. Federal funds were allocated to expand access to industrial vocational education programs. New schools and labs were built; new and improved occupational programs were offered; and innovative instructional techniques were adopted.

And yet, Congress concluded in 1968 that the job of industrial vocational education was not being accomplished.

While access to vocational educational programs had been dramatically expanded, the jobless rate persisted at a double-digit level. Even though vocational education programs were expanded and scope was broadened to include prevocational and lifelong learning, the overriding theme, however, continued to emphasize expanded access to vocational programs. Little concern was paid to coordinating programs at local or even state level for subject or curriculum content. State and local school systems

discovered that not only was industrial vocational education expensive, there is no place to turn to in getting help to meeting rising cost. So, we had funding to develop and teach industrial education, but no one inspired the students to take advantage of technological education (Bushnell, 1979:82).

The links between formal education and work are obscured by an infinite number of forces dimly and rarely perceived by professional educators. The roles that the schools, and vocational education in particular, play in the preparation of young people for active, autonomous, and self-reliant adulthood has been the subject of endless debate and controversy (Fryklund, 1970:28).

Realities ascribed to the universe of schools are, on close inspection, more likely myths. The notion that there is a necessary and causal relationship between highly specialized/technical training and high potential employability is suspect when explained in practice. The common and widely-held belief that schooling equals education perpetuates a host of bad education practices. The persistent belief that there is a world of education or school and a separate or different world of work belies all reality and distorts; if it does not defeat, whatever potential education has for preparing people for work.

Added to the problem of the dysfunctionality of initial industrial preparation is the intensification of the phenomenon of obsolescence. Can any skill-oriented industrial vocational preparation program even begin to comprehend, much less cope with the pace of technical change which renders so much of industrial vocational preparation useless in increasingly shorter periods of time? It is this question which serves to rekindle the old, but still silent, debate between the forces of industrialism and those of general education.

It is a debate which reaches back into our educational history nearly a century and carries inherently within it all of the symbols of free democratic public education. The symbols are real, though transformed into late twentieth-century terminology and models of expression.

Does industrial and vocational education have a future? Yes, if it claims for itself realistic and attainable goals. There is a vital and necessary role for the provision of industrial arts/vocationally related skills to young people who have first been given the basis for making informed choices that are predicated on trained intelligence. Vocational education is, after all, a part of the larger education establishment. Too often it has seen itself as separate from the rest of education and the students in school view vocational education as separate from life itself.

The industrial education establishment could profit from Winston Churchill's conviction that "those who are possessed of a definite body of doctrine and of deeply rooted convictions upon it will be in a much better position to deal with the shifts and surprises of daily affairs than those who are merely taking short views and indulging their natural impulses as they are evoked by what they read from day to day. The first thing is to decide where you want to go" (Berlin, 1979:79).

Creating an understanding of industry has long been a major objective of programs in industrial education. More recently, concern has been expressed for interpreting the totality of industry by including such factors as materials, research and design, servicing, and the organizational patterns of industry. The rationale for materials, and research and design programs is derived from the fact that this aspect of Industrial Arts curriculum is not adequately current.

In 1965, a proposal supported by Kansas State University in cooperation with Paola (Kansas) High School was funded by the U.S. Office of Education. The project was designed to develop a new vocational-education program that would eliminate duplication of content in the various programs, and would focus on those elements common to all industrial and vocational education programs.

By combining the efforts of all teachers in the occupational education, the program's redevelopment focuses on the common and differential aspects of industrial and vocational subjects. In this way teachers in the fields of agriculture, business, health, home economics, industrial arts, and guidance present a correlated program that provides occupational information, guidance activities, and experiences that lead to preparation and curriculum re-examination in a specific vocational field (Cochran, 1969:47).

Innovation and change have permeated curriculum development in industrial education since the Sixties. In fact, more innovative programs with broader implications have been developed during the past ten years than any of the preceding decades. This period of time is labeled the "Golden Age" of industrial education (Somers and Little, 1971:99). Numerous influences, including technological advancement, federal legislation, the quest for increased curriculum relevancy, and the strengthened emphasis on research have been cited as factors figuring in the emergence of a profusion of new instructional concepts and tactics.

Several teacher-education institutions have developed new curriculums for teacher preparation. Numerous secondary-school systems have revised their programs to more adequately meet the needs of youth. Individual teachers, also, have experimented with new techniques and methods to present technical content.

These changes stem from a collision of numerous factors, each playing a significant role in altering the character of existing programs. For example, the call for curriculum relevancy focused attention on meeting the needs of youth by providing meaningful education experiences. Technological advancement eliminated many occupational categories, produced totally new fields, and released an explosion of technical knowledges. Federal legislation and foundation financial assistance provided the impetus for creative curriculum efforts. A new research orientation evidenced by the increase of research articles, the development of "research coordinating units", new research publications and in-service seminars (Cochran, 1969:53).

While teachers do not always see the advantage or necessity of carrying out a complete and comprehensive review of the curriculum, they can become highly motivated to pursue study of curriculum problems which they themselves have identified.

The problem-centered approach has a great deal of psychological merit, for teachers view this as an approach which will help them with problems or programs with which they are intimately involved. As an alternative to identifying a special problem or a particular program, the supervisor might suggest that the teachers work with him or her on the development of a year's course of study or syllabus for a particular subject or grade, or on the construction of a resource unit on a particular topic to be presented during the year.

It is often said that the supervisor acts as a catalyst or change agent. In the job of curriculum development it is the supervisor who helps teachers to identify curricular problems and helps facilitate study and the search for solutions to those problems. He or she exerts leadership in stimulating teachers to take a look at the curriculum and come up with recommendations for redevelopment and improvement. It is he who sparks a dissatisfaction with the status quo and causes teachers to want to make revisions. He is a curriculum worker, a participant in a cooperative process of which he is but one member - hopefully a respected member. The supervisor's authority and claim to respect should result not from his status position but from the level of credibility that can be induced in the people he works with. The supervisor is not the developer nor should he behave in such a manner. Just as it takes two to tango it takes two or more to develop a curriculum.

In order to achieve credibility the supervisor must have specialized skills himself. He must be grounded in curriculum theory, know what solutions have been tried in the past and how they have fared, and be cognizant of current developments in curriculum nationally or internationally (Oliva, 1976:231).

Where does a supervisor begin to grab hold of curriculum development? Two approaches may be followed, both of which are effective and viable. The first, the comprehensive approach, permits a total view of the curriculum. The second, the problem-centered approach, is confined to study of specific curricular problems identified by the teachers. Both approaches have their own purposes. The comprehensive approach requires a global look at the curriculum and uncovers heretofore unidentified problems, while the problem-centered approach is a response to problems already identified by teachers. A supervisor will take both approaches, often concurrently, conducting a problem-centered study while a comprehensive study is going on. The department head should plan for and initiate a comprehensive study while at the same time responding to the need for study of particular problems (Fryklund, 1970:179).

#### SUMMARY

What part has research played in influencing changes in curriculum development? In the process of reviewing literature on curriculum development, several documents studied were devoted exclusively to a summary and synthesis of research in Industrial Arts and vocational education. Observations were only made in the specific areas of curriculum development and research in Industrial Arts, vocational and technical education.

While much has been written about curriculum development, content, and analyses, few significantly different curriculum

innovations were indicated by the available research.

From the standpoint of some researchers, studies and projects relating to curriculum are suspect. While the curriculum literature has been rich in statements of purpose, philosophy, and principles, it lacks theoretical formulations which foster researchable hypothesis. From all the documents and texts reviewed, very little reference was found on course content devoted for stimulation of the young mind for thinking ahead to solve tomorrow's problems.

The status of the curriculum in Industrial Arts is one of uneasiness and confusion. The percentage of studies designed to investigate, improve, or evaluate the curriculum appears to indicate and testifies to the feeling that all is not well with the program with which we are working to make boys and girls technologically literate and occupationally aware.

With this healthy skepticism about many of the studies in curriculum development in mind, it is possible to summarize and generalize about some significant and interesting trends and developments which hold promise for future refinements. These observations were made in the specific areas of curriculum development and research in Industrial Arts, vocational and technical education.



## CHAPTER III

### METHODS AND PROCEDURES

It was thought that by studying and observing the curriculum development techniques and strategies presently employed by Industrial Arts teachers, education curriculum specialists, and literature, one can attempt to evaluate overall effectiveness and formulate a course refinement hypothesis for modernization. To accomplish this, the researcher surveyed Industrial Arts teachers in the Tidewater area school systems that include the cities of Virginia Beach, Norfolk, Chesapeake, and Hampton.

### SELECTION OF THE POPULATION

The Board of Education teachers directories for these Tidewater cities will be used as a population document. It presently identifies about 210 Industrial Arts teachers under contract in the secondary schools.

The selection of ninety Industrial Arts teachers as the low limit in this survey was distributed as follows: Virginia Beach school system - thirty-five Industrial Arts teachers; Norfolk school system - thirty Industrial Arts teachers; Chesapeake school system - fifteen Industrial Arts teachers; and Hampton school system - ten Industrial Arts teachers. It was felt that this distribution was

representative of teacher and student population. In addition, the researcher felt that sufficient information could be extracted from approximately forty-two percent of the Industrial Arts teachers currently employed.

#### PROCEDURES FOR THE SURVEY

An instrument (Appendix A) was developed to extract the information that will assist the researcher in his attempt to answer the questions set forth in Chapter I of this study. The instrument, with a cover letter requesting assistance (Appendix B), and a postage paid return envelope, was mailed to the research population. A delay in the retrieval of information was anticipated and a follow-up procedure was devised to insure a maximum rate of return. The survey instrument, along with a follow-up letter (Appendix C), and a postage paid return envelope was mailed to the participants who had not responded. The second survey instrument was for requesting consideration in assisting the researcher in his efforts to develop a logical method for curriculum content modernization.

#### STATISTICAL PROCEDURES

The Virginia State Industrial Arts teachers directory was used as a source for a Tidewater population selection. All Industrial Arts teachers considered eligible as a parameter for statistical sample were randomly listed and assigned a numerical identification label. This first step in stratification of the random sample was to divide the population into two groups proportionate to the relationship of the urban and suburban population.

### SUMMARY

The researcher felt that by studying the responses of techniques employed by other Industrial Arts curriculum coordinators and actively employed teachers, he could develop a hypothesis and method for curriculum content relevancy updating. From the Tidewater school systems teachers directories, ninety teachers or about forty-two percent of the total teacher population was selected. The breakdown in school system selection by numbers reflects the school student and teacher population. A survey document was developed and delivered to the research population to solicit information on curriculum content. When the questionnaires were returned, the results were correlated and analyzed to develop and publish a hypothesis and method for curriculum content remodernization update.

## CHAPTER IV

### FINDINGS

This study was conducted to identify and analyze strategies used by Industrial Arts teachers and supervisors from Tidewater community secondary school systems to review and update of curriculum subject matter. The research questions set forth in Chapter I were:

1. Who should be included on a curriculum committee?
2. Who should provide the curriculum committee with leadership and dominate direction?
3. Who should be responsible for setting goals for curriculum review or revision?
4. What strategies are employed by a curriculum committee to include and exclude subject material?
5. Should the Industrial Arts subject area include a technical advisory committee?

The data elicited by the survey to answer these questions was treated in this chapter. The information generated by the study was presented in two sections. The first section was a review of the teacher population of the Tidewater schools, Table 1, and 2.

The first section also contained an in-depth discussion of the research questions and survey answers relationships. The second section, (Table 3), examined the results of the Industrial Arts teacher survey. The survey results were correlated in total answers and by urban and suburban comparisons.

The survey was distributed to ninety Industrial Arts educators from urban and suburban Tidewater public school systems, (Appendix page 42). Of these ninety teachers surveyed, initially fifty-nine responded within one week. The remaining non-responding Industrial Arts educators were sent a follow-up of the survey with a letter asking for their support, (Appendix page 43). Of the thirty-one follow-up surveys, eleven teachers responded to this second request for information. Thus, this survey represents a total of seventy participants, which is equivalent to seventy-seven percent of the survey population and thirty-four percent of the total population. The results reported in this chapter were a compilation of the data developed by the survey.

#### TRENDS

Table 1 identifies the Tidewater secondary schools by system and classifies them as junior or senior high schools. Table 1 also itemizes the number of Industrial Arts teachers assigned to each school. Table 2 indicates an urban or suburban school system and distinguishes between the number of teachers assigned to the junior and senior high schools.

TABLE 1

## SCHOOL SYSTEMS INDUSTRIAL ARTS TEACHER POPULATION

School System	School Name	Senior High	Junior High	No. Teachers
Virginia Beach:				
	Virginia Beach		X	3
	Princess Anne	X		6
	Frank W. Cox	X		4
	Floyd Kellam	X		6
	Bayside	X		5
	First Colonial	X		5
	Kempsville	X		6
	Plaza		X	4
	Kempsville		X	3
	Bayside		X	4
	Lynnhaven		X	4
	Independence		X	4
	Princess Anne		X	4
	Brandon		X	4
	Green Run	X		8
	Center for Effective Learning			3
Total:				73
Hampton:				
	Phoebus	X		6
	Francis W. Jones		X	5
	Vocational Prep.			3
	Hampton	X		5
	Jefferson Davis		X	3
	Pembroke	X		2
	Kecoughtan	X		4
	Benjamin Syms	X		4
	Bethel	X		6
	C. Alton Lindsay		X	3
	C. Vernon Spratley		X	3
Total:				44

TABLE 1 (Continued)

School System	School Name	Senior High	Junior High	No. Teachers
Chesapeake:				
	Truitt		X	1 ✓
	Oscar F. Smith	X		3
	Great Bridge		X	3 ✓
	Crestwood		X	3 ✓
	Great Bridge	X		4 ✓
	Deep Creek	X		4 ✓
	Indian River		X	4 ✓
	Western Branch		X	2 ✓
	Deep Creek		X	2 ✓
	Indian River	X		3 ✓
	Western Branch	X		3 ✓
Total:				32
Norfolk:				
	Maury	X		6
	Blair		X	4
	Ruffner		X	3
	Madison			1
	Granby	X		6
	Jacox		X	4
	Northside		X	3
	Norview		X	3
	Norview	X		5
	Rosemont		X	4
	Azalea Garden		X	4
	Campostella		X	3
	Lake Taylor		X	4
	Lake Taylor	X		6
	B. T. Washington	X		5
Total:				61
Total Population:				210

TABLE 2

SENIOR AND JUNIOR HIGH SCHOOL  
INDUSTRIAL ARTS TEACHER POPULATION

School System	Type System	Senior High	Junior High
Virginia Beach, VA.	S	40	33
Hampton, VA.	U	27	14
Chesapeake, VA.	S	13	19
Norfolk, VA.	U	26	33

S: Suburban

U: Urban



To determine an answer for research question number one, Who should be included on a curriculum committee?, survey questions one through six were asked to determine a reliable answer. It is noted that four out of five Industrial Arts teachers have completed six or more undergraduate or graduate hours of curriculum development, (Item 1, Table 3, page 29). This would mean that more than two-thirds of Industrial Arts teachers are eligible to serve as a member of curriculum update and revision committee.

Survey questions, Items two, three, four, five and six, (Table 3, page 29), indicate one out of two suburban Industrial Arts teachers has helped develop a course curriculum outline, however the survey reflects that only one out of six urban school Industrial Arts teachers has been involved. In the urban school systems, one-fourth of the Industrial Arts teachers have experienced membership on a formal committee at one time or another. Both urban and suburban Industrial Arts teachers indicated that three out of four would volunteer or serve on a curriculum committee if nominated. Only one out of ten urban or suburban Industrial Arts teachers surveyed indicated no interest and would not serve on a committee or volunteer to work with an update or revision group.

Research question number two is answered by survey items numbers nine, ten, eleven and twelve, (Table 3, page 29). All school systems except one reported that they had an Industrial Arts curriculum coordinator. However, the one negative report was from an urban system and may have been reported in error. Although

less than half of the Industrial Arts teachers support a position to employ a full-time curriculum specialist, more than half think that the school system should employ a full-time specialist.

Survey question number twelve, Who should chair a curriculum committee?, results are interpreted differently by both urban and suburban teachers. Every other Industrial Arts teacher from the suburban system indicated that the curriculum supervisor should supervise the curriculum committee, however every other urban Industrial Arts teacher feels that the supervisor should not chair a curriculum committee.

Research question number three is answered by survey questions, Items thirteen, fourteen, fifteen, sixteen, seventeen and eighteen, (Table 3, page 29). Only one out of five Industrial Arts teachers surveyed feels that the curriculum supervisor should set a curriculum committee's goals. All school systems provide a curriculum outline, even though the survey indicated two negative answers. State curriculum guides are available for lesson plan references for all public school systems in the State of Virginia. The negative responses to use of state curriculum guides indicate that some Industrial Arts teachers may be unaware of reference materials available. Only one out of fifteen Industrial Arts teachers reported that they do not use a local curriculum guide to prepare lesson plans.

Three out of four Industrial Arts teachers make an input to curriculum update or revision and consider their Industrial Arts

curriculum adequate to accomplish teaching goals, (Items nineteen and twenty, Table 3, page 29). Seven out of eight Industrial Arts teachers feel that a local curriculum committee should have authority to include or exclude subject material, (Item twenty-one, Table 3, page 30). Four out of five Industrial Arts teachers feel that the curriculum supervisor should not be the final authority to effect curriculum change, (Item twenty-three, Table 3, page 31). Industrial Arts teachers implied, seven to one, that they should have the authority to make necessary curriculum changes, (Item number twenty-two, Table 3, page 31).

The survey indicates that only one school uses the advisory services of a professional consultant committee, yet the survey also indicates that most teachers would welcome some assistance.

Table 3, (page 29), summarizes the survey results in terms of mathematical totals of yes/no responses and are further differentiated by answers for both urban and suburban school systems. Although the totals indicate an overall Industrial Arts teacher response, urban and suburban teachers' answers in several instances do not agree. Special attention to all responses is invited.

#### SUMMARY

The survey questions results are reported as follows:

TABLE 3

## INDUSTRIAL ARTS TABULATION

Survey Question Number	Research Question Ref.Number	Total Yes	Total No	Urban Yes	Urban No	Suburban Yes	Suburban No
1.	Have you completed more than six undergraduate or graduate course hours in curriculum development?						
	1.	58	12	24	6	34	6
2.	Have you ever participated in developing a curriculum outline for a school system?						
	1.	47	23	21	9	26	14
3.	Are you a member of a school system curriculum committee?						
	1.	9	61	5	25	4	36
4.	Would you volunteer to become a member of a curriculum committee?						
	1.	43	27	12	18	31	9
5.	Would you serve on a curriculum committee if nominated?						
	1.	53	17	22	8	31	9
6.	Would you assist or donate personal time to work for a curriculum committee if requested?						
	1.	49	21	18	12	31	9
8.	Do you teach more than five periods a day?						
	3.	3	67	3	27	0	40
9.	Does your school system have an Industrial Arts curriculum coordinator?						
	2.	55	15	15	15	40	0
10.	Would you support a position to employ a full-time curriculum specialist for course review or development in your school system?						
	2.	50	20	22	8	28	12

Survey Question Number	Research Question Ref.Number	Total Yes	Total No	Urban Yes	Urban No	Suburban Yes	Suburban No
11.	Do you think your school system should employ a full-time curriculum specialist?						
	2.	49	21	21	9	28	12
12.	Do you feel that the curriculum supervisor should chair a curriculum committee?						
	2.	39	31	9	21	30	10
13.	Do you feel that the curriculum supervisor should set a curriculum committee's goals?						
	3.	8	62	4	26	4	36
14.	Do you feel that teachers should set the goals for a curriculum committee?						
	3.	64	6	28	2	36	4
15.	Does the school system that employs you provide curriculum outlines?						
	3.	67	3	27	3	40	0
16.	Does the school system that employs you provide a state curriculum guide?						
	4.	57	13	23	7	34	6
17.	Do you use a state curriculum guide as a reference to write lesson plans?						
	4.	47	23	22	8	25	15
18.	Do you use a local curriculum guide to prepare lesson plans?						
	4.	56	14	23	7	33	7
19.	Are you requested to make an input for curriculum update or revision?						
	4.	44	26	27	3	17	23

Survey Question Number	Research Question Ref.Number	Total Yes	Total No	Urban Yes No	Suburban Yes No
------------------------------	------------------------------------	--------------	-------------	-----------------	--------------------

20. Do you consider your Industrial Arts curriculum adequate for you to accomplish teaching goals?

3.	51	19	20	10	31	9
----	----	----	----	----	----	---

21. Do you feel a curriculum committee should have authority to include or exclude subject material?

4.	53	17	22	8	31	9
----	----	----	----	---	----	---

22. Do you feel teachers should have the authority to include or exclude curriculum subject material?

4.	61	9	23	7	38	2
----	----	---	----	---	----	---

23. Should the curriculum supervisor be the final authority to effect curriculum change?

4.	13	57	5	25	8	32
----	----	----	---	----	---	----

24. Does your school system engage professional industry technicians as technical curriculum advisory committee consultants?

5.	9	61	3	27	6	34
----	---	----	---	----	---	----

25. Does the school system you teach in evaluate your performance periodically?

	66	4	28	2	38	2
--	----	---	----	---	----	---

## CHAPTER V

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### INTRODUCTION

The problem of this study was to conduct a survey of Tidewater community public secondary school systems to identify and analyze methods and strategies for curriculum development, update and responsibility. This chapter summarizes the procedures used in the study, draws conclusions about the findings and the study, and makes recommendations for the development and policy implementation of who should have the authority to determine inclusion or exclusion of curriculum subject material.

#### SUMMARY

Industrial Arts teachers representing Tidewater secondary public school systems were randomly selected to participate in this survey. Seventy-seven percent of the participants selected responded to the questionnaire. The responses were compared, recorded and analyzed to identify those methods that appear to be most effective to influence changes. The data presented in Chapter IV revealed that not all Industrial Arts teachers agree with policy and change. The analysis of the information supplied by means of the questionnaire from the responding participants

served as the basis for the conclusions and recommendations of this study.

### CONCLUSIONS

The results of this study showed that Tidewater, Virginia Industrial Arts urban and suburban teachers do not always agree with policy and methods. Responses returned by Industrial Arts teachers indicate that some educators are not aware of all the materials and facilities available to them, nor do the teachers who know about them take advantage of them. Several of the survey forms returned supplied some unsolicited remarks with some derogatory comments about the research and the subject under consideration.

The following conclusions are based on survey answers to the research questions:

1. Industrial Arts teachers in both urban and suburban junior and senior high school systems feel and indicate that they should staff and compose the membership of a curriculum committee.
2. The survey indicates the Industrial Arts teachers from urban and suburban schools differ somewhat in their opinions and feelings about the leadership of a curriculum committee. Urban Industrial Arts teachers believe that the school system curriculum supervisor should provide the cognizant committee with direction and leadership. Suburban Industrial Arts teachers reported that



curriculum committee leadership and direction should be provided from within the membership.

3. Both urban and suburban Industrial Arts teachers implied by their survey responses that curriculum review and revision goals should be set by the committee membership.

4. Industrial Arts teachers reported that they utilize state and local curriculum guides as lesson plan references and feel that they should have the authority to include or exclude curriculum materials.

5. Tidewater Industrial Arts teachers do not think that a curriculum advisory committee is necessary and unanimously voted no to engaging a professional consultants group.

## RECOMMENDATIONS

Founded on the results of this survey reported in Chapter IV, (Tables 1, 2, and 3), the following recommendations are submitted. Several recommendations can be considered arbitrary since they are based on survey interpretations.

1. A secondary public school system which provides an Industrial Arts discipline should include a curriculum committee with a membership ratio of at least one committee member for every seven or eight teachers. The committee should consist of at least ten or twelve members comprised of at least three senior experienced and three new teachers. Make-up mixture of the committee should be two teachers who represent each grade, 7-12.

2. School systems should utilize the services of teachers willing to serve on curriculum committees for material review and update. In both suburban and urban public school systems, curriculum committee leadership should be provided from within the committee membership. Eighty percent of suburban teachers surveyed are qualified to serve on a curriculum committee and sixty-six percent of the teachers indicated they would serve as a participating member if selected.

3. The school system should assume the responsibility to provide technical guidance to the curriculum committee and implement necessary revision. Teachers should assume a responsibility to maintain the professional excellences for update recommendations to the curriculum committee.

4. The curriculum committee should maintain an update surveillance on the subject materials with a system of continual review by teachers. Recommendations for change should be submitted to the school system curriculum supervisor for implementation.

5. Industrial Arts teachers should be encouraged to continually review their curriculum and lesson plans and submit ideas for material update for discipline excellence.

6. School systems should adopt and provide a method to encourage teachers who devote personal time reviewing subject materials to submit recommendations for curriculum update and revision changes to the committee.

7. Industrial Arts teachers should be provided with a State Industrial Education semi-annual publication summary review of industry's latest state of the arts inventions.

8. Industrial Arts teachers should be encouraged to participate and attend the annual state-sponsored professional seminars which include an exchange of ideas for curriculum excellence.

In addition, based on the findings of this study, the use of professional publications should be made the subject of a new study to determine the potential for individual Industrial Arts teachers curriculum review participation. Even though this study

fell somewhat short of developing a comprehensive plan or method to guarantee maximum review and development facilitation, the need and interest for curriculum committee participation was reported. Due to the dimension of the subject material, the information gathered during the course of this study was insufficient, explicit conclusions could not be determined and further study in this area of curriculum development is recommended.

## BIBLIOGRAPHY

- Berlin, Lawrence S. "Reality, Myth and the future of Vo-Ed," School Shop, April 1979, p. 28.
- Bushnell, David S. "Cooperation: a better way," School Shop, April 1979, p. 51.
- Campbell, William G., and Stephen V. Ballou. Form and Style: Theses, Reports, Term Papers. 4th ed., Boston: Houghton Mifflin, 1974.
- Cochran, Leslie H. "Charting the Changing Direction of Industrial Education, Part I," School Shop, September 1969, p. 46.
- \_\_\_\_\_. "Charting the Changing Direction of Industrial Education, Part II," School Shop, October 1969, p. 36.
- Department of Education, Industrial Arts Education Service, Industrial Arts Guide for Exploring Technology. Richmond, July 1978.
- Fryklund, Verne C. Analysis Techniques for Instructors. Milwaukee: The Bruce Publishing Co., 1970.
- Oliva, Peter F. Supervision for Today's Schools. New York: Harper & Row, 1976.
- Somers, Gerald G., and J. Kenneth Little. Vocational Education, Today and Tomorrow. University of Wisconsin, 1971.
- Van Dyke, Arvid, Dr. Industrial Arts Program of Studies. Industrial Arts Education Service, Department of Education, Richmond, 1978.
- Zais, Robert S. Curriculum Principles and Foundations. New York: Harper & Row, 1976.

## APPENDICES

Appendix A - Survey Instrument . . . . .	40
Appendix B - Letter to Participants in the Study . . . . .	42
Appendix C - Follow-up Letter to Non-responding Participants . . . . .	43

## APPENDIX A

### INDUSTRIAL ARTS CURRICULUM METHODS SURVEY

This study is designed to determine Industrial Arts teacher opinions and ideas about curriculum revision, review and update responsibility. The survey is also intended to ascertain and identify teacher attitude and assist the researcher to develop a hypothesis.

Please respond to these questions as accurately as possible. Place a check mark in the space provided next to the answer of your choice.

1. Have you completed more than six undergraduate or graduate course hours in curriculum development? Yes\_\_\_ No\_\_\_
2. Have you ever participated in developing a curriculum outline for a school system? Yes\_\_\_ No\_\_\_
3. Are you a member of a school system curriculum committee? Yes\_\_\_ No\_\_\_
4. Would you volunteer to become a member of a curriculum committee? Yes\_\_\_ No\_\_\_
5. Would you serve on a curriculum committee if nominated? Yes\_\_\_ No\_\_\_
6. Would you assist or donate personal time to work for a curriculum committee if requested? Yes\_\_\_ No\_\_\_
7. What type community school do you teach Industrial Arts in? Suburban Urban
8. Do you teach more than five periods a day? Yes\_\_\_ No\_\_\_
9. Does your school system have an Industrial Arts curriculum coordinator? Yes\_\_\_ No\_\_\_
10. Would you support a position to employ a full-time curriculum specialist for course review or development in your school system? Yes\_\_\_ No\_\_\_

11. Do you think your school system should employ a full-time curriculum specialist? Yes\_\_\_ No\_\_\_
12. Do you feel that the curriculum supervisor should chair a curriculum committee? Yes\_\_\_ No\_\_\_
13. Do you feel that the curriculum supervisor should set a curriculum committee's goals? Yes\_\_\_ No\_\_\_
14. Do you feel that teachers should set the goals for a curriculum committee? Yes\_\_\_ No\_\_\_
15. Does the school system that employs you provide curriculum outlines? Yes\_\_\_ No\_\_\_
16. Does the school system that employs you provide a state curriculum guide? Yes\_\_\_ No\_\_\_
17. Do you use a state curriculum guide as a reference to write lesson plans? Yes\_\_\_ No\_\_\_
18. Do you use a local curriculum guide to prepare lesson plans? Yes\_\_\_ No\_\_\_
19. Are you requested to make an input for curriculum update or revision? Yes\_\_\_ No\_\_\_
20. Do you consider your Industrial Arts curriculum adequate for you to accomplish teaching goals? Yes\_\_\_ No\_\_\_
21. Do you feel a curriculum committee should have authority to include or exclude subject material? Yes\_\_\_ No\_\_\_
22. Do you feel teachers should have the authority to include or exclude curriculum subject material? Yes\_\_\_ No\_\_\_
23. Should the curriculum supervisor be the final authority to effect curriculum change? Yes\_\_\_ No\_\_\_
24. Does your school system engage professional industry technicians as technical curriculum advisory committee consultants? Yes\_\_\_ No\_\_\_
25. Does the school system you teach in evaluate your performance periodically? Yes\_\_\_ No\_\_\_

Your responses to the above questions are confidential. Thank you for your help and cooperation.



## APPENDIX B

### Letter to Participants in the Study

Dear Industrial Arts Teacher,

In preparation of a research project, I am seeking your assistance to analyze a strategy for review, update or revision of the Industrial Arts curriculum. The purpose of this study is to survey Industrial Arts teachers of the Tidewater, Virginia public schools systems to question and identify individual opinions, suggestions and methods which appear to be most effective.

Your success as an Industrial Arts teacher has been noted and your institution has been identified as successful in maintaining a high level of student enrollment in your educational program. To provide me with insight to your methodology, I request that you please give me a few minutes of your time to complete the attached questionnaire. It is a questionnaire that is so constructed for you to provide me with simple definite answers and opinions. By analyzing the information provided by you, those areas in curriculum presentation methodology and update strategies will be identified.

I wish to assure you that all findings and recommendations will be made available for use to all Industrial Arts teachers. Please use the enclosed stamped addressed envelope to return the questionnaire. A reply by March 15th is requested to enable the researcher to develop viable strategies before the end of the spring semester. Thank you for your help and consideration.

Sincerely yours,

R. L. Hicks

## APPENDIX C

### Follow-up Letter to Non-responding Participants

Dear Industrial Arts Teacher,

A research questionnaire entitled, "Industrial Arts Curriculum Methods Survey", was recently mailed to you. You and your school were selected because it has been identified as an institution maintaining an above-average student enrollment in Industrial Arts and is representative of the Industrial Arts teacher involvement. This study is being conducted in the Tidewater area.

Since the questionnaire may not have reached you, another questionnaire is enclosed. It would be appreciated if you take a few moments of your time to complete the survey. Please use the enclosed self-addressed envelope to return the questionnaire.

Sincerely yours,

R. L. Hicks