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ABSTRACT

This study was conducted a) to determine the importance that a jury of selected national leaders in education attaches to each of the professional tasks for secondary school industrial education teachers and b) to find out what differences, if any, exist between the importance judgments of the jury and those of each of four industrial education teacher groups (junior, junior-senior, senior high school, and capstone). The jury was composed of state consultants in industrial education, state teacher education officers, and selected leaders in education and industrial education. Results indicate that the teacher groups are 97.2% in agreement on the frequency with which they perform their tasks and 99.0% in agreement on the importance they attach to these professional tasks. The level of agreement between the jury and the industrial education teacher subgroups, however, was found to be only 89.6%. Of the 170 significant differences found between the jury and the subsets of teacher groups, the jury gave the higher of the two importance ratings in 68% of the cases. (Author/DDO)

ACKNOWLEDGEMENT

This study could only be completed with the cooperation of many:

The M.S. degree program committee at the University of Wisconsin - Stout and various consultants to that committee, including M.S. degree candidate students, developed the original task listing over a two-year period of time.

The Wisconsin Secondary School Industrial Education Teachers as well as the Jury members were obviously central to the study.

Noteworthy student help was received in some of the routine tasks of recording and ordering data.

Mr. Clifford Gauthier, director, Computer Center, and two of his student supervisors of the center, UW - Stout, assisted with computer programs and output, without which this study probably never would have been completed.

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Both in the planning of these grant requests and in providing service to execute them, Mr. Ray Szymanski, director for Research and Development, Center for Research and Educational Improvement, University of Wisconsin - Stout, has been absolutely invaluable.

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CHAPTER 1

INTRODUCTION

Already reported in Parts II through VI of this study are data relating to the frequency and importance Wisconsin junior, junior-senior, senior high school and capstone industrial education teachers attach to their professional tasks. To form the base for re-evaluation of the professional segment of the master of Science degree program in Industrial Education at UW - Stout, it was believed that additional data were needed.

In addition to what Wisconsin industrial education teachers believed about their professional tasks, it was thought that these beliefs should be validated by a select jury of leaders in education and in industrial education. Somewhat arbitrarily it was rationalized that a jury consisting of the following three groups would give a valid view of what the importance level for each task should be for secondary school industrial education teachers:

1. The State Consultants (or Supervisors) of Industrial Art, (or, if none, the State Industrial Education Consultant) in each state. This list was taken from the April, 1972 issue, School Shop, "Federal and State Officials - A Directory". p 30-44

2. The State Teacher Education Officer in each state (the person who supervises the office in which the State teacher certification is done.) This list was taken from the 1972 directory of State Teacher Education officers in State Departments of Public Instruction

3. A list of Selected Leaders in Industrial Education. This list was arbitrarily developed by requesting ten professionals believed by the researcher to have knowledge of persons who would be able to respond with authority to the "professional tasks" instruments.

Moreover, it was believed that by comparing the results of the importance responses by the jury with the importance responses by each of the Wisconsin industrial education teacher groups that valid decisions could be made with respect to re-evaluating the professional segment of the preservice and in-service programs for Wisconsin industrial education teachers.

STATEMENT OF THE PROBLEM

Specifically data are presented in response to these questions:

1. What importance does a jury of selected leaders in education composed of

   a. state consultants in industrial education (N=61)

   b. state teacher education officers (N=65)

   c. selected leaders in industrial education and education (N=93)

   attach to each of the professional tasks for secondary school (grades 7-12) industrial education teachers?

2. What differences, if any, exist between what the jury of leaders in education believe in their judgement of the importance of each task as compared to what each of the teacher groups (junior, junior-senior, senior high school and capstone teachers) reported that they believe.

RELATION TO OTHER STUDIES

In August of 1972, a paper was prepared which reviewed the development of the task analysis studies at UW - Stout up to that point in time.[1]

Since this study is based upon that development, the following outline of it is presented for information:

Introduction
Need for Role Descriptions
Program Development Model
Position Paper Implications
Identification of Tasks
Development of Task Analysis
  Survey Instruments
Processing the Data

Also, in the summer of 1972, a study was completed by six graduate students at UW-Stout.[2] This paper examined the professional tasks of Wisconsin

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[1]Lawrence S. Wright, Development of Task Analysis Studies in Industrial Education; Graduate College, University of Wisconsin-Stout, Menomonie, Wisconsin, August, 1972.

[2]Daniel Fara, et.al., "Professional Tasks of the Wisconsin Industrial Education Teacher" (unpublished Plan B investigation, University of Wisconsin-Stout, 1972)

industrial arts teachers (1) who taught in any or all of grades 7, 8 and/or 9 whether they also taught in senior high school or not, (2) who taught in any or all of grades 10, 11 or 12 whether they also taught in junior high school or not, and (3) who taught Capstone industrial education courses.

In the belief that a more detailed study of those who taught only grades 7, 8 and/or 9; those who taught 7, 8 and/or 9 and 10, 11 and/or 12 but not Capstone courses; and those who taught Capstone courses without regard to other levels at which they might be teaching; this study was undertaken.

This study is Part VIII in the following series:

Part I: Introduction to the Problem

Part II: Frequency and Importance of Their Professional Tasks as Reported by Wisconsin Junior High School Industrial Arts Teachers

Part III: Frequency and Importance of Their Professional Tasks as Reported by Wisconsin Junior-Senior High School Industrial Arts Teachers

Part IV: Frequency and Importance of Their Professional Tasks as Reported by Wisconsin Senior High School Industrial Education Teachers

Part V: Frequency and Importance of Their Professional Tasks as Reported by Wisconsin Capstone Industrial Education Teachers

Part VI: Frequency and Importance of Their Professional Tasks as Reported by All Wisconsin Secondary School Industrial Education Teachers

Part VII: Significant Differences Between Selected Wisconsin Industrial Education Teacher Groups with Respect to (1) Frequency and (2) Importance of their Professional Tasks

Part VIII: Importance of Industrial Education Teacher's Professional Tasks as Seen by a Jury of Selected Leaders in Education, Together with Significant Differences Between Responses of Selected Wisconsin Industrial Education Teacher Groups and the Jury

ORGANIZATION OF THIS REPORT

This report is organized into four chapters, this being the first. In the second is reported the importance study of the jury; the third, the validation studies of each of the industrial education teacher groups; and the fourth, a summary and some concluding remarks.

CHAPTER 2

IMPORTANCE OF PROFESSIONAL TASKS OF SECONDARY SCHOOL INDUSTRIAL EDUCATION TEACHERS AS JUDGED BY A JURY OF SELECTED LEADERS IN EDUCATION

The composition of the jury of leaders was presented on page 2. Data in Table 1 show the response to the task analysis instrument to be 165 or 75.3 percent. This would seem to be a relatively high percentage of response. It is hoped that this may reflect interest of the jury in the tasks as well as the possibility that the jury was fairly well selected for the purposes already outlined.

EXPERIENCE CHARACTERISTICS OF THE JURY

Supervision of Student Teachers

It may be seen in Table 2 that 96 or 58.1 percent of the jury has supervised student teaching in industrial education, several of whom have experience over a rather long period of time. In a like manner, 40 or 24.2 percent have experience in supervising teachers in other disciplines. This would seem to indicate that at least half of the jury had first-hand experience with professional tasks one might expect of pre-service teachers undergoing student teaching.

Supervision of Secondary School Classroom Teachers

Data in Table 3 show that 84 or 50.9 percent of the jury has experience in supervising classroom teachers in industrial education, again, over fairly long periods of time. Forty-nine or 29.7 percent have had experience in supervising classroom teachers in other disciplines. This would suggest familiarity, if not professional competence of the jury, with respect to the professional tasks one might expect of in-service secondary school teachers in general and industrial education teachers in particular.

TABLE 1

Composition of Educational Leadership Groups
Showing Useable Number and Percentage
of Forms Returned

	Number of Forms Out	Useable Number Returned	Useable Percentage Returned
State Consultants in Industrial Arts (or Industrial Education)	61	45	73.8
State Teacher Education Officers	65	43	66.0
Selected Leaders in Industrial Education or Education	93	77	82.8
Total Educational Leadership Group	219	165	75.3

TABLE 2

Years of Experience Including 1971-72 in Which
the Jury Reported Experience in
Supervising Student Teachers

Years of Experience	Supervised Student Teachers in: Number Supervising Industrial Education N	%	Number Supervising other Disciplines N	%
2 or less	28	17.0	11	6.7
3 - 5	32	19.4	15	9.1
6 - 10	19	11.5	7	4.2
11 - 15	10	6.0	4	2.4
More than 15	7	4.2	3	1.8
Sub-Total	96	58.1	40	24.2
None Reported	69	41.9	125	75.8
Totals	165	100.0	165	100.0

TABLE 3

Years of Experience Including 1971-72 in Which the Jury Superfised Classroom Teachers in Secondary Schools

Years of Experience	Supervised Secondary Classroom Teachers in: Number Supervising Industrial Education N	%	Number Supervising other Disciplines N	%
2 or less	20	12.1	12	7.3
3 - 5	28	17.0	14	8.5
6 - 10	18	10.9	11	6.7
11 - 15	7	4.2	7	4.2
More than 15	11	6.7	5	3.0
Sub-Total	84	50.9	49	29.7
None Reported	81	49.1	116	70.3
Totals	165	100.0	165	100.0

College or University Level Teacher Education

Responses of the jury show in Table 4 that 96 or 58.1 percent have relatively long experience in college or university level teacher education in industrial education. Seventy-two or 43.6 percent have had college or university level teacher education in other disciplines than industrial education. It would seem that the jury experiences might have prepared them well for responding to importance of the professional tasks of the industrial education teacher in secondary schools.

TABLE 4

Years of Experience Including 1971-72 in Which the Jury Taught College or University Level Teacher Education

Years of Experience	Taught College or University Teacher Education in: Number Teaching Industrial Education N	%	Number Teaching other Disciplines N	%
2 or less	17	10.3	25	15.1
3 - 5	23	13.9	20	12.1
6 - 10	17	10.3	13	7.9
11 - 15	14	8.5	6	3.7
More than 15	25	15.1	8	4.8
Sub-Total	96	58.1	72	43.6
None Reported	69	41.9	93	56.4
Totals	165	100.0	165	100.0

Administration of College or University Level Teacher Education

Evidence in Table 5 shows 64 or 38.8 percent of the respondents had experience in administration of college or university level teacher education in industrial education, moreover, 31 or 18.8 percent had experience administering teacher education programs at the college or university levels in other disciplines. It would seem that these experiences might have been helpful to these respondents in qualifying them for responding to the importance of the professional tasks of secondary school industrial education teachers.

TABLE 5

Years of Experience Including 1971-72 in Which the Jury Administered College or University Level Teacher Education

Years of Experience	Administered College or University Teacher Education of: Number Administering Industrial Education Teachers		Number Administering Teachers from other Disciplines	
	N	%	N	%
2 or less	14	8.5	4	2.4
3 - 5	24	14.5	16	9.7
6 - 10	17	10.3	6	3.7
11 - 15	3	1.8	3	1.8
More than 15	6	3.7	2	1.2
Sub-Total	64	38.8	31	18.8
None Reported	101	61.2	134	81.2
Totals	165	100.0	165	100.0

Service as a State Consultant or Supervisor

The total number of jury respondents who served some years as a state consultant or supervisor is 68 as may be seen in Table 6. Since there were only 45 returns from state consultants (Table 1) this would indicate that several jury members who are not now state consultants have had this type of experience.

Service as a State Teacher Education Officer

Data presented in Table 7 show a total of 33 respondents with experience as the state teacher education officer. Since returns were presumably received from 43 such officers (Table 1) it would seem that some potential respondents

may have asked someone else in their office to respond to the questionnaire on their behalf.

TABLE 6

Years of Experience Including 1971-72 in Which the Jury Served as a State Consultant or Supervisor

Years of Experience	Number of State Consultants or Supervisors
2 or less	18
3 - 5	27
6 - 10	13
11 - 15	6
More than 15	4
Total	68

TABLE 7

Years of Experience Including 1971-72 in Which the Jury Served as State Teacher Education Officer

Years of Experience	Number of State Teacher Education Officers
2 or less	9
3 - 5	11
6 - 10	10
11 - 15	2
More than 15	1
Total	33

Summary of Experience Characteristics

Based on the data in Tables 2 through 7, to the extent that experience qualifies one as having certain expertise growing out of having dealt with the problems with which one is confronted, it would seem that the jury would be quite capable of rendering reasonably valid judgments about the importance of the professional tasks of the secondary school industrial education teacher.

IMPORTANCE RATINGS

Data are presented in Appendix A which show the importance rating assigned by the jury to each of the first-level, second-level, and third-level professional tasks in terms of their belief of the importance of each to the secondary school industrial education teacher. The directions on the task analysis instrument to the jury were as follows:

> please indicate your reaction to each task.
> circle an appropriate number representing your judgment of the importance of that task to successful performance by secondary school (grades 7-12) industrial education teachers of industrial education subjects.
>
> Industrial education as used here includes: industrial arts for general education purposes and/or vocational industrial education for pre-employment purposes.

It may be noted that the third-level tasks are ranked from 1 (highest) to 327 (lowest). In a like manner the second-level tasks are ranked from 1 to 57 and the first level tasks from 1 to 10.

The third-level task-rankings are based on the median of actual responses to each of the third-level tasks. The second-level task rankings are based on the median of accumulated third-level task responses. The first-level task rankings are based on the median of accummulated second level task responses.

The interquartile range shows a comparative level of agreement among

respondents to that item without regard to either extreme.

The importance ranking of first-level tasks by the jury is presented in Table 8.

A summary of the distribution of importance ratings of the jury by first-, second-, and third-level tasks may be seen in Table 9.

Care in interpreting the first-level task rankings should be exercised. While there is an order, only one task, utilize research, was rated as low as "moderately important". Each of the other nine first-level tasks were rated by median value as "very important"

TABLE 8

Ranking of Importance of First-Level Tasks to Successful Performance by Secondary School Industrial Education Teachers by a Selected Jury

Rank	Code Number	First-Level Tasks
1	5.0	Facilitate Learning
2	1.0	Improve Individuals Competencies
3	3.0	Design Instruction
4	4.0	Nurture Humaneness
5	10.0	Evaluate Programs
6	6.0	Manage Learning Environment
7	2.0	Design Programs
8	9.0	Evaluate Instruction
9	7.0	Provide Professional Service
10	8.0	Utilize Research

TABLE 9

Interpretation of Median (Mdn) Values of Importance Ratings by a National Jury of Educational Leaders

Range of Median Values	Importance Interpretation	Tasks					
		First-Level		Second-Level		Third-Level	
		N	%	N	%	N	%
4.500 and higher	Essential	0	0	2	3.5	48	14.7
3.500 - 4.499	Very Important	9	90	42	73.6	191	58.4
2.500 - 3.499	Moderately Important	1	10	11	19.2	77	23.5
1.500 - 2.499	Slightly Important	0	0	2	3.5	11	3.3
1.499 and lower	Unimportant	0	0	0	0	0	0

TASKS RECEIVING LOW IMPORTANCE RATINGS

An examination was made of the tasks which received low ratings. Low ratings for importance were those rated either as "unimportant" or as "slightly important". No task received an "unimportant" rating by the jury. Only 11 of 327 third-level tasks received a rating of "slightly important" and only 2 of the 57 second-level tasks were rated by the select jury as "slightly important". See Table 10.

It is interesting to note that seven of the third-level tasks and both of the second-level tasks receiving low importance ratings by the jury lie in the first-level cluster of: Utilize Research.

SUMMARY

Data has been presented which suggest a valid jury for responding to the importance which should be attached to the professional tasks of secondary school industrial education teachers.

To the extent that this was an appropriate jury, the importance ratings given each task by the jury tend to validate the entire list with the possible exception of those eleven third-level and two second-level tasks appearing in Table 10 and rated by the jury as "slightly important".

TABLE 10

Tasks Receiving Low Importance Ratings
by the Select Jury

Code Number	Task	Slightly Important
6.5.4	Use rewards and punishment to control deviant behavior	X
7.6.2	Write reviews of new tests, instructional aids, and media for education journals	X
7.6.3	Develop written instructional materials for publication	X
8.2.2	Write a rationale for a research study including a review of literature	X
8.2.3	Formulate objectives or hypotheses to be answered through research study	X
8.2.5	Select a population for a particular research study	X
8.2.6	Select or develop an instrument appropriate to a researchable problem	X
8.2.9	Submit research proposal to appropriate funding bodies	X
8.4.2	Formally review and revise preliminary draft of research report	X
8.4.3	Complete final draft of research report	X
9.2.8	Use computer to assist in analyzing test results	X
	SECOND-LEVEL TASKS	
8.2	Prepare proposals for researching a problem	X
8.4	Write research reports	X

CHAPTER 3

COMPARISON OF IMPORTANCE RATINGS OF JURY AND TEACHER-GROUP RESPONSES TO PROFESSIONAL TASKS

Data has been presented in chapter II of this study relative to the importance ratings of each of the first-, second-, and third-level professional tasks of the secondary school industrial education teacher as seen by a select jury. In other sections of this study (Parts II through VI) data has been presented showing the judgment of Wisconsin junior, junior-senior, senior high school, capstone and "all secondary school" industrial education teachers on the importance they attach to these tasks.

Data are presented in this chapter which identify the third-level tasks for which significant differences were found to exist between the jury response to importance and each teacher group response to importance.

It is rationalized that in development of a base for the re-evaluation of the professional segment of the master of science degree in industrial education at UW-Stout that the response of a jury as to what importance levels should be would lend the validation needed to such a study.

Assuming validity in the jury responses, significant differences between the jury and any teacher group should reveal attitude differences for particular tasks that may be of importance in degree program re-evaluation.

THE JURY AND THE JUNIOR-HIGH SCHOOL TEACHER GROUP

In comparing jury responses with those of Wisconsin junior high school industrial arts teachers on their importance rating of third-level tasks, data in Table 11 evidence significant differences on 38 or 11.6 percent of the 327 tasks. This indicates the existance of an attitude difference between these two groups with respect to their beliefs of importance on

these 38 tasks.

It may also be of interest to note that eleven of these fall under the first-level cluster: 2.0 Design Instruction. Each of these eleven was rated higher by the jury than by the junior high school teacher group.

Six of these fall under the first-level cluster: 6.0 Manage the Learning Environment. Each of these was rated higher by the junior high school teacher group than by the jury.

In all, 28 of these 38 tasks or 73.7 percent were rated higher by the jury than by the industrial arts teacher group.

TABLE 11

Third-Level Tasks for which Statistically Significant Differences in the Importance of Task Performance were Found between a National Jury of Educational Leaders and Wisconsin Junior High School Industrial Arts Teachers

Item Code	Third-Level Task	Median of Importance of Task Performance		Significance Level
		Jury	Jr. H.S.	
2.1.2	Listen to and interact with presentations about current status and the future as input to program-level curriculum development	4.250	3.230	05
2.3.1	Identify various group cultures that may compose target populations for programs	3.400	2.400	05
2.3.3	Identify appropriate learning principles for target populations at the program level	4.285	3.437	05
2.5.2	Develop program-level mission statement(s)	3.666	2.416	05
2.5.3	Develop program-level objectives	4.850	4.000	01
2.5.6	Correlate the industrial education program as a sub-system of the total educational program	4.531	3.416	05
2.6.3	Develop mission statement for course(s)	3.958	2.863	01
2.7.1	Plan for student evaluation of courses and programs	4.250	3.444	05
2.7.5	Prepare follow up studies of graduates of the program	3.400	2.529	01
2.8.7	Plan an educational program for the consumers of a proposed change so that they may see the value of the change	3.781	2.750	05
2.8.11	Evaluate the effect of planned change on other curriculum areas and on the total curriculum	4.071	3.205	01

Item Code	Third-Level Task	Median of Importance of Task Performance		Significance Level
		Jury	Jr. H.S.	
3.2.2	Group and sequence performance objectives into appropriate units of instruction	4.266	3.555	05
3.4.7	Develop alternative learning activities to provide for individual student needs	4.607	3.833	05
3.7.3	Plan for self-evaluation techniques to be used by students	4.156	2.958	01
3.7.5	Plan for student evaluation of course	4.076	3.166	01
4.3.6	Become familiar with services provided by the communite, e.g.: public library, museums, other schools, cultural center, etc.	4.200	3.428	05
5.2.6	Reward student achievement	3.964	4.800	01
5.4.3	Adjust the learning environment (facilities) to provide optimum learning conditions	4.911	4.165	01
5.4.4	Revise time allocations for instructional plans and strategies based on student feedback	4.031	3.333	05
6.2.3	Order new educational materials and supplies	3.692	4.590	05
6.2.4	Receive and check in supplies and materials	3.285	4.657	01
6.3.3	Provide for maintenance by servicing or referral for service as appropriate	3.366	4.227	05
6.4.5	Keep records of student grades for each class taught	3.392	4.843	01
6.5.4	Use rewards and punishment to control deviant behavior	2.444	4.450	01
6.6.1	Maintain control of comfortable temperature, lighting, and noise levels in classrooms and laboratories	3.607	4.763	01

Item Code	Third-Level Task	Median of Importance of Task Performance		Significance Level
		Jury	Jr. H.S.	
7.1.10	Assist students in securing and filling out job applications	3.117	2.142	01
7.1.11	Involve resource persons and agencies in assisting students	4.000	3.033	01
7.3.1	Assist new teachers in system to understand policies, regulations and social functions of school	3.150	3.900	05
7.7.8	Offer criticism, encouragement and suggestions in joint evaluation with student-teacher	4.095	4.766	05
8.5.3	Organize and set-up pilot programs in cooperation with other researchers	2.958	1.954	05
8.6.6	Evaluate the conclusions of a research report	3.050	1.954	05
8.6.7	Determine potential application and usefulness of research findings to his own situation	3.750	3.000	05
9.2.8	Use computer to assist in analyzing test results	2.178	1.315	01
9.3.2	Conduct student self-evaluation procedures	3.958	2.115	05
10.1.5	Select (or design) and administer tests of psychomotor abilities for evaluation of programs	3.400	2.500	05
10.1.7	Interact with and evaluate professional program-level curriculum viewpoints	3.925	3.333	05
10.3.2	Review program-level follow-up studies to ascertain the usefulness of material learned	3.950	3.307	05
10.4.4	Assess adequacy of instructional materials for carrying out learning activities at the program level	4.700	3.882	05

THE JURY AND THE JUNIOR-SENIOR HIGH SCHOOL TEACHER GROUP

In comparing jury responses with those of Wisconsin junior-senior high school industrial arts teachers on their importance rating of third-level tasks, data in Table 12 evidence significant differences on 33 or 10.1 percent of the 327 tasks. This indicates the existance of an attitude difference between these two groups with respect to their beliefs of importance on these 33 tasks.

It may also be of interest to note that eight of these fall under the first-level cluster: 2.0 Design Instruction. Each of these eight was rated higher by the jury than by the junior-senior high school teacher group.

Nine of these fall under the first-level cluster: 6.0 manage the Learning Environment. Eight of these nine were rated higher by the junior-senior high school teacher group than by the jury.

In all, 24 of these 33 or 72.7 percent were rated higher by the jury than by the industrial arts teacher group.

TABLE 12

Third-Level Tasks for which Statistically Significant Differences in the Importance of Task Performance were Found between a National Jury of Educational Leaders and Wisconsin Junior-Senior High School Industrial Arts Teachers

Item Code	Third-Level Task	Median of Importance of Task Performance		Significance Level
		Jury	Jr.-Sr. H.S.	
2.3.1	Identify various group cultures that may compose target populations for programs	3.400	2.416	05
2.3.2	Examine the characteristics of group cultures to improve understanding of attitudes, needs, and interests of those making up the culture for program-level input	3.725	2.818	05
2.4.2	Identify human needs including those of differing cultures	4.033	2.944	01
2.5.3	Develop program-level objectives	4.850	4.050	01
2.5.6	Correlate the industrial education program as a sub-system of the total educational program	4.531	3.735	05
2.7.1	Plan for student evaluation of courses and programs	4.250	3.555	05
2.7.4	Maintain a program-level instruction evaluation log book	3.454	2.409	01
2.8.7	Plan an educational program for the consumers of a proposed change so that they may see the value of the change	3.781	2.807	05
3.1.4	Identify performance standard for performance objectives	4.700	3.833	05
3.4.1	Consult resources to identify learning activities	4.068	3.157	01
3.7.3	Plan for self-evaluation techniques to be used by students	4.156	3.416	05

Item Code	Third-Level Task	Median of Importance of Task Performance		Significance Level
		Jury	Jr.-Sr. H.S.	
3.9.5	Validate content against levels within domains for lesson plans	3.961	3.125	05
4.3.6	Become familiar with services provided by the community, e.g.: public library, museums, other schools, cultural center. etc.	4.200	3.538	05
5.2.6	Reward student achievement	3.964	4.678	05
5.4.3	Be sensitive to non-verbal feedback	4.911	4.392	05
6.1.2	Write a program statement for your shop or laboratory	4.038	3.076	05
6.2.3	Order new educational materials and supplies	3.692	4.666	01
6.2.4	Receive and check in supplies and materials	3.285	4.428	05
6.4.1	Keep attendance records for each class taught	3.000	4.409	05
6.4.4	Keep a record of purchase orders and inventories	3.454	4.604	05
6.4.5	Keep records of student grades for each class taught	3.392	4.785	01
6.4.7	Keep an up-to-date industrial and educational supply catalog file	3.375	4.450	01
6.5.4	Use rewards and punishment to control deviant behavior	2.444	4.523	01
6.6.1	Maintain control of comfortable temperature, lighting, and noise levels in classrooms and laboratories	3.607	4.741	01
7.7.5	Hold conferences with student-teacher regarding his performance, progress and problems	4.576	3.375	05
8.2.6	Select or develop an instrument appropriate to a researchable problem	2.181	2.973	05
9.2.2	Formulate devices to measure cognitive (knowledge-type) behavior	4.346	3.750	05

Item Code	Third-Level Task	Median of Importance of Task Performance		Significance Level
		Jury	Jr.-Sr. H.S.	
9.2.8	Use computer to assist in analyzing test results	2.178	1.177	01
9.4.3	Analyze student evaluation of instruction	4.093	3.166	01
9.4.4	Compare pretest and posttest results	4.000	3.027	01
10.1.7	Interact with and evaluate professional program-level curriculum viewpoints	3.925	3.275	01
10.4.3	Determine appropriateness of course objectives in fulfilling student needs at the program-level	4.617	3.825	05
10.4.4	Assess adequacy of instructional materials for carrying out learning activities at the program level	4.700	3.958	05

THE JURY AND THE SENIOR HIGH SCHOOL TEACHER GROUP

In comparing jury responses with those of Wisconsin senior high school industrial education teachers on their importance rating of third-level tasks, data in Table 13 evidence significant differences on 31 or 9.5 percent of the 327 tasks. This indicates the existance of an attitude difference between these two groups with respect to their beliefs of importance on these 31 tasks

It may be of interest to note that seven of these fall under the first-level cluster: 2.0 Design Instruction. Each of these seven was rated higher by the jury than by the senior high school teacher group.

Eight of these fall under the first-level cluster: 6.0 Manage Learning Environment. Each of these eight was rated higher by the senior high school teacher group than by the jury.

In all, 20 of these 31 or 64.5 percent were rated higher by the jury than by this industrial education teacher group.

TABLE 13

Third-Level Tasks for which Statistically Significant Differences in the Importance of Task Performance were Found between a National Jury of Educational Leaders and Wisconsin Senior High School Industrial Arts Teachers

Item Code	Third-Level Task	Median of Importance of Task Performance		Significance Level
		Jury	Sr. H.S.	
2.1.9	Establish tentative program-level goals for industrial education in relation to societal needs	4.090	3.147	05
2.3.1	Identify various group cultures that may compose target populations for programs	3.400	2.071	01
2.5.3	Develop program-level objectives	4.850	3.928	01
2.6.3	Develop mission statement for course (s)	3.958	2.777	01
2.7.1	Plan for student evaluation of courses and programs	4.250	3.666	05
2.8.7	Plan an educational program for the for the consumers of a proposed change so that they may see the value of the change	3.781	2.500	05
2.8.11	Evaluate the effect of planned change on other curriculum areas and on the total curriculum	4.071	3.281	05
3.1.3	Identify conditions under which student behavior modification will take place	4.467	3.888	05
3.9.5	Validate content against levels within domains for lesson plans	3.961	3.218	05
4.3.2	Evidence interest in graduated students	3.764	2.812	05

Item Code	Third-Level	Median of Importance of Task Performance		Significance Level
		Jury	Sr. H.S.	
4.3.6	Become familiar with services provided by the community, e.g.: public library, museums, other schools, cultural center, etc.	4.200	3.235	01
5.1.1	Identify individual needs of students	4.928	4.433	05
5.1.2	Find out what students expect from the instruction	4.156	3.350	05
5.2.6	Reward student achievement	3.964	4.840	01
5.4.3	Be sensitive to non-verbal feedback	4.911	4.055	01
6.1.4	Consult catalogs of industrial and educational supplies for specification of equipment available	3.388	4.500	05
6.1.5	Prepare a list of specific equipment and tools appropriate to program level and needs	3.384	4.333	05
6.2.3	Order new educational materials and supplies	3.692	4.694	01
6.3.3	Provide for maintenance by servicing or referral for service as appropriate	3.366	4.350	05
6.4.1	Keep attendance records for each class taught	3.000	4.666	01
6.4.4	Keep a record of purchase orders and inventories	3.454	4.775	01
6.4.5	Keep records of student grades for each class taught	3.392	4.875	01
6.6.1	Maintain control of comfortable temperature, lighting, and noise levels in classrooms and laboratories	3.607	4.736	01
7.3.4	Sponsor student club activities	2.906	2.000	05
7.7.8	Offer criticism, encouragement and suggestions in joint evaluation with student-teacher	4.095	4.812	01
8.2.6	Select or develop an instrument appropriate to a researchable problem	2.181	3.105	01

Item Code	Third-Level	Median of Importance of Task Performance		Significance Level
		Jury	Sr. H.S.	
9.2.8	Use computer to assist in analyzing test results	2.178	1.227	01
9.4.4	Compare pretest and posttest results	4.000	3.107	05
10.1.7	Interact with and evaluate professional program-level curriculum viewpoints	3.925	3.346	05
10.4.4	Assess adequacy of instructional materials for carrying out learning activities at the program level	4.700	4.108	05
10.4.5	Assess appropriateness of learning activities to the program	4.656	3.861	01

THE JURY AND THE CAPSTONE TEACHER GROUP

In comparing jury responses with those of Wisconsin capstone industrial education teachers on their importance rating of third-level tasks, data in Table 14 evidence significant differences on 18 or 5.5 percent of the 327 tasks. This indicates the existance of an attitude difference between these two groups with respect to their beliefs of importance on these 18 tasks.

Of these 18 tasks 12 or 66.7 percent were rated higher by the jury than by this industrial education teacher group.

It is again noted that tasks in the first-level cluster under 2.0 Design instruction were rated higher by the jury while those under the first level cluster 6.0 Manage Learning Environment were rated higher by the capstone teacher group.

TABLE 14

Third-Level Tasks for which Statistically Significant Differences in the Importance of Task Performance were Found between a National Jury of Educational Leaders and Wisconsin Capstone Industrial Education Teachers

Item Code	Third-Level Task	Median of Importance of Task Performance		Significance Level
		Jury	Capstone	
2.3.1	Identify various group cultures that may compose target populations for programs	3.500	2.125	01
2.5.3	Develop program-level objectives	4.850	4.050	05
2.6.3	Develop mission statement for course(s)	3.958	3.000	05
2.7.1	Plan for student evaluation of courses and programs	4.250	3.550	05
2.8.1	Establish curriculum implementation practices and sequence to move progressively from the existing system, through phases, into the planned system	4.000	3.071	05
2.8.7	Plan an educational program for the consumers of a proposed change so that they may see the value of a change	3.781	2.950	05
3.9.1	Write objectives for lesson plans	4.350	3.100	05
4.1.2	Admit that teachers also make mistakes and learn from them	4.062	4.857	05
5.4.3	Adjust the learning environment (facilities) to provide optimum learning conditions	4.911	4.111	05
5.5.3	Provide experiences for some students to prepare them for entry into appropriate industrially related occupations or to develop a base for advanced occupational education	4.000	4.789	01

Item Code	Third-Level Task	Median of Importance of Task Performance		Significance Level
		Jury	Capstone	
6.1.4	Consult catalogs of industrial and educational supplies for specification of equipment available	3.388	4.576	05
6.4.4	Keep a record of purchase orders and inventories	3.454	4.781	01
6.4.7	Keep an up-to-date industrial and educational supply catalog file	3.375	4.705	01
6.5.4	Use rewards and punishment to control deviant behavior	2.444	4.705	01
7.7.1	Provide student-teacher with orientation to the school, classroom and community	4.250	3.375	05
9.2.8	Use computer to assist in analyzing test results	2.178	1.384	05
9.4.4	Compare pretest and posttest results	4.000	3.178	05
10.1.7	Interact with and evaluate professional program-level curriculum viewpoints	3.925	3.272	05

THE JURY AND THE "ALL SECONDARY SCHOOL" TEACHER GROUP

In comparing jury responses with those of all Wisconsin secondary school industrial education teachers on their importance rating of third-level tasks, data in Table 15 evidence significant differences on 50 or 15.3 percent of the 327 tasks. This indicates the existance of an attitude difference between these two groups with respect to their beliefs of importance on these 50 tasks.

Among the reasons for a larger number of differences for the jury and the total teacher group are these: (1) the teacher sub-groups did not always reflect the same tasks as those for which significant differences

were found; (2) with a substantially larger N for the total teacher group than for any of the sub-groups, the non-parametric Kolmogorov-Smirnov test tends to require a smaller difference between the two medians to obtain a significant difference at the .05 and the .01 percent levels.

It may be of interest to note that 16 of these 50 tasks found to be significantly different fall under the first-level cluster: 2.0 Design Instruction. Fifteen of these 16 were rated higher by the jury than by the secondary school industrial education teacher group.

Eleven of these tasks found to be significantly different fall under the first-level task: 6.0 Manage Learning Environment. Each of these 11 was rated higher by these practitioners than by the jury.

In all, 33 of these 50 or 66 percent were rated higher by the jury than by the secondary school industrial education teachers.

TABLE 15

Third-Level Tasks for which Statistically Significant Differences in the Importance of Task Performance were Found between a National Jury of Educational Leaders and All Wisconsin Secondary School Industrial Education Teachers

Item Code	Third-Level Task	Median of Importance of Task Performance		Significance Level
		Jury	Secondary	
2.1.9	Establish tentative program-level goals for industrial education in relation to societal needs	4.090	3.240	05
2.2.1	Read magazines and journals that focus on industry as part of the study of the institution of industry	3.500	4.192	05
2.3.1	Identify various group cultures that may compose target populations for programs	3.400	2.297	01

Item Code	Third-Level Task	Median of Importance of Task Performance		Significance Level
		Jury	Secondary	
2.3.2	Examine the characteristics of group cultures to improve understanding of attitudes, needs, and interests of those making up the culture for program-level input	3.725	2.850	05
2.4.2	Identify human needs including those of differing cultures	4.033	3.256	01
2.5.2	Develop program-level mission statement(s)	3.666	2.661	05
2.5.3	Develop program-level objectives	4.850	4.025	01
2.5.6	Correlate the industrial education program as a sub-system of the total educational program	4.531	3.576	05
2.6.1	Identify student populations to be served as a basis for determining program experiences	4.388	3.574	05
2.6.3	Develop mission statement for course(s)	3.958	3.000	01
2.7.1	Plan for student evaluation courses and programs	4.250	3.521	01
2.7.4	Maintain a program-level instruction evaluation log book	3.454	2.857	05
2.7.5	Prepare follow-up studies of graduates of the program	3.400	2.885	05
2.8.1	Establish curriculum implementation practices and sequence to move progressively from the existing system, through phases, into the planned system	4.000	3.337	05
2.8.7	Plan an educational program for the consumers of a proposed change so that they may see the value of the change	3.731	2.761	01
2.8.11	Evaluate the effect of planned change on other curriculum areas and on the total curriculum	4.071	3.445	05

Item Code	Third-Level Task	Median of Importance of Task Performance		Significance Level
		Jury	Secondary	
3.1.4	Identify performance standard for performance objectives	4.700	3.940	05
3.4.1	Consult resources to identify learning activities	4.068	3.196	01
3.6.5	Prepare instructional materials	4.312	4.841	05
3.7.3	Plan for self-evaluation techniques to be used by students	4.156	3.448	01
3.7.5	Plan for student evaluation of course	4.076	3.408	05
3.9.5	Validate content against levels within domains for lesson plans	3.961	3.294	05
4.3.2	Evidence interest in graduated students	3.764	3.351	05
4.3.6	Become familiar with services provided by the community, e.g.: public library, museums, other schools, cultural center, etc.	4.200	3.481	01
5.1.2	Find out what students expect from the instruction	4.156	3.683	05
5.2.6	Reward student achievement	3.964	4.535	01
5.3.9	Recognize and interact with subcultures unique to the student population	4.000	3.228	05
5.4.3	Adjust the learning environment (facilities) to provide optimum learning conditions	4.911	4.181	01
6.1.4	Consult catalogs of industrial and educational supplies for specification of equipment available	3.388	4.230	01
6.2.3	Order new educational materials and supplies	3.692	4.578	01
6.2.4	Receive and check in supplies and materials	3.285	4.385	01
6.3.3	Provide for maintenance by servicing or referral for service as appropriate	3.366	4.234	01

Item Code	Third-Level Task	Median of Importance of Task Performance		Significance Level
		Jury	Secondary	
6.4.1	Keep attendance records for each class taught	3.000	4.520	05
6.4.2	Keep student progress records for each class	4.125	4.668	05
6.4.4	Keep a record of purchase orders and inventories	3.454	4.645	01
6.4.5	Keep records of student grades for each class taught	3.392	4.780	01
6.4.7	Keep an up-to-date industrial and educational supply catalog file	3.375	4.338	01
6.5.4	Use rewards and punishment to control deviant behavior	2.444	4.295	01
6.6.1	Maintain control of comfortable temperature, lighting, and noise levels in classrooms and laboratories	3.607	4.577	01
7.3.1	Assist new teachers in system to understand policies, regulations and social functions of school	3.150	3.909	05
7.7.1	Provide student-teacher with orientation to the school, classroom and community	4.250	3.697	05
8.2.6	Select or develop an instrument appropriate to a researchable problem	2.181	2.971	05
9.2.8	Use computer to assist in analyzing test results	2.178	1.264	01
9.4.3	Analyze student evaluation of instruction	4.093	3.301	01
9.4.4	Compare pretest and posttest results	4.000	3.158	01
9.4.5	Appraise student performance in relation to instructional goals	4.789	4.306	05
10.1.7	Interact with and evaluate professional program-level curriculum viewpoints	3.925	3.330	01

Item Code	Third-Level Task	Median of Importance of Task Performance Jury	Secondary	Significance Level
10.3.2	Review program-level follow-up studies to ascertain the usefulness of material learned	3.950	3.500	05
10.4.3	Determine appropriateness of course objectives in fulfilling student needs at the program-level	4.617	3.937	01
10.4.4	Assess adequacy of instructional materials for carrying out learning activities at the program level	4.700	4.046	05

In comparing jury response to importance with the response of all Wisconsin secondary school industrial education teachers data presented in Table 16 shows that rank orders within the first-level clusters were the same for 4.0 Nurture Humaneness, 5.0 Facilitate Learning, 7.0 Provide Professional Service, and 8.0 Utilize Research. The two clusters with the greatest variance in rank were: 3.0 Design Instruction which was ranked 3 by the jury but only 5 by the teacher group; and 6.0 Manage the Learning Environment which was ranked 2 by the teacher group but only 6 by the jury. This further demonstrates the direction of differences between the jury and the teacher groups within these two clusters.

TABLE 16

Rank Order of Responses to Importance of First-Level Tasks by the Jury and All Wisconsin Secondary School Industrial Education Teachers

Code	First-Level Tasks	Rank Orders	
		Jury	All
1.0	Improve Individual's Competencies	2	3
2.0	Design Programs	7	8
3.0	Design Instruction	3	5
4.0	Nurture Humaneness	4	4
5.0	Facilitate Learning	1	1
6.0	Manage Learning Environment	6	2
7.0	Provide Professional Service	9	9
8.0	Utilize Research	10	10
9.0	Evaluate Instruction	8	7
10.0	Evaluate Programs	5	6

A summary of data showing number and percent of first-, second-, and third-level tasks falling under each of the descriptive terms used in defining importance is presented in Tables 17, 18 and 19. Here it may be seen that the jury tended to rate higher in the middle ranges than did the teacher group.

TABLE 17

Comparison of Number and Percentage of Importance Ratings of First-Level Tasks by the Jury and All Wisconsin Secondary School Industrial Education Teachers

Range of Median Points	Descriptive Terms	First-Level Tasks Number Jury	All	Percentage Jury	All
4.50 and higher	Essential	0	0	0	0
3.50 - 4.49	Very important	9	7	90	70
2.50 - 3.49	Moderately important	1	3	10	30
1.50 - 2.49	Slightly important	0	0	0	0
1.49 and lower	Unimportant	0	0	0	0

TABLE 18

Comparison of Number and Percentage of Importance Ratings of Second-Level Tasks by the Jury and All Wisconsin Secondary School Industrial Education Teachers

Range of Median Points	Descriptive Terms	Second-Level Tasks Number Jury	All	Percentage Jury	All
4.50 and higher	Essential	2	3	3.5	5.4
3.50 - 4.49	Very important	42	33	73.6	57.8
2.50 - 3.49	Moderately important	11	19	19.2	33.3
1.50 - 2.49	Slightly important	2	2	3.5	3.5
1.49 and lower	Unimportant	0	0	0	0

TABLE 19

Comparison of Number and Percentage of Importance Ratings of Third-Level Tasks by the Jury and All Wisconsin Secondary School Industrial Education Teachers

Range of Median Points	Descriptive Terms	Third-Level Tasks Number Jury	Number All	Percentage Jury	Percentage All
4.50 and higher	Essential	48	42	14.7	12.8
3.50 - 4.49	Very important	191	160	58.4	48.9
2.50 - 3.49	Moderately important	77	109	23.5	33.4
1.50 - 2.49	Slightly important	11	15	3.3	4.6
1.49 and lower	Unimportant	0	1	0	0.3

SUMMARY

In studying the significant differences between the jury and the teacher groups in their responses to importance of third-level tasks, there were many more likenesses than differences. The largest number of differences was 50 or 15.3 percent between the jury and the total Wisconsin industrial education group. The smallest number was 18 or 5.5 percent between the jury and the capstone group.

While each task for which differences were found should be examined in re-evaluating the M.S. degree program in industrial education for a particular teacher group, there seemed to be a trend among the first level cluster of: 2.0 Design Programs, for the jury to give higher importance ratings to more of those tasks found to be significantly different than any of the teacher groups gave. On the other hand there seemed to be a trend for each of the teacher groups to give the first-level cluster:

6.0 Manage the Learning Environment, a higher importance rating than did the jury. Perhaps this is reasonable enough since the success of a teacher may very well be observed in part on the way in which his management of the learning environment is conducted even though some of these tasks are quite routine.

CHAPTER 4

SUMMARY, CONCLUSIONS, OBSERVATIONS AND RECOMMENDATIONS

The central purpose of this study was to provide hard data from which the director of the M.S. degree program in industrial education and his program committee could make sound judgments with respect to re-evaluation of said program.

More specifically, an attempt was made to answer these questions with respect to the professional tasks performed by Wisconsin industrial education teachers:

1. With what frequency do junior high school, senior high school, junior-senior high school, capstone and all of these secondary school industrial education teachers perform these tasks?

2. What importance do each of these teacher groups attach to these tasks in their teaching assignment?

3. What differences, if any, exist between these teacher groups with respect to frequency of these tasks?

4. What differences, if any, exist between these teacher groups with respect to importance of these tasks?

5. What importance does a jury of leaders in education composed of
   a. selected leaders in industrial teacher education (N=93)
   b. state consultants in industrial arts or industrial education (N=61)
   c. state teacher education officers (N=65)
   attach to each of these tasks for secondary school (grades 7-12) industrial education teachers?

6. What differences, if any, exist between what the jury of leaders in education believe in their judgment of the importance of each task as compared to what each of the teacher groups reported that they believe?

To this end, the following reports were prepared, this report being Part VIII:

Part I: Introduction to the study

Part II: Frequency and Importance of their Professional Tasks as Reported by Wisconsin Junior High School Industrial Art Teachers

Part III: Frequency and Importance of Their Professional Tasks as Reported by Wisconsin Junior-Senior High School Industrial Art Teachers

Part IV: Frequency and Importance of their Professional Tasks as Reported by Wisconsin Senior High School Industrial Education Teachers

Part V: Frequency and Importance of their Professional Tasks as Reproted by Wisconsin Capstone Industrial Education Teachers

Part VI: Frequency and Importance of their Professional Tasks as Reported by Wisconsin Secondary School Industrial Education Teacher Groups

Part VII: Significant Differences Between Wisconsin Industrial Education Teacher Groups with Respect to (1) Frequency and (2) Importance of their Professional Tasks

Part VIII: Importance of Industrial Education Teacher's Professional Tasks as Seen by a Jury of Selected Leaders in Education Together with Significant Differences Between Responses of Selected Wisconsin Industrial Education Teacher Groups and the Jury

SUMMARY

It may be remembered that there were 327 third-level tasks in the task analysis instrument. In studying the differences, if any, between six sets of teacher groups, a total of 54 significant differences were found with respect to the frequency with which teachers perform these tasks. This is only 2.8 percent of the third-level tasks. A total of 19 significant differences were found between these six sets of teacher groups with respect to importance they attach to these tasks. This represents only 1.0 percent of the third-level tasks.

Thus, while these few differences can be handled on an individualized basis in the pre-service and in-service programs of instruction for these teacher groups, one may say that these groups are 97.2 percent in agreement on the frequency with which they perform these tasks and 99.0 percent in agreement in the importance they attach to their professional tasks.

On the other hand, in examining the jury responses to importance and comparing these with importance ratings for each teacher group, a somewhat larger number of significant differences was found. Data in Table 20 show significant differences on 10.4 percent of the third-level tasks. This would suggest an agreement level of 89.6 percent between the jury and the Wisconsin industrial education teacher sub-groups.

Of the 170 significant differences found between the jury and the sub-sets of teacher groups; on 117, or 68 percent, the jury gave the higher of the two importance ratings.

TABLE 20

Summary of Numbers of Significant Differences Between the Jury and Each Teacher Group on Importance Attached to Professional Tasks

Comparisons Made	Total N	Third-Level Tasks Significant Difference N	%
Jury; Junior H.S.	327	38	11.6
Jury; Junior-Senior H.S.	327	33	10.1
Jury; Senior H.S.	327	31	9.5
Jury; Capstone	327	18	5.5
Jury; All Secondary School Industrial Education Teachers	327	50	15.3
TOTALS	1635	170	10.4

CONCLUSIONS

Within the limits of the study the following conclusions are drawn

1. The teacher groups who were part of this study:

   a. Wisconsin junior high school industrial arts teachers;
   b. Wisconsin junior-senior high school industrial arts teachers;
   c. Wisconsin senior high school industrial education teachers;
   d. Wisconsin capstone industrial education teachers;

   are drawn from essentially the same population with regard to frequency of performance and importance attached to their professional tasks. Therefore, with these few differences handled on an individualized basis, both the pre-service and in-service preparation programs in the professional component of their education represented by these tasks can be common to each of these teacher groups.

2. Of the third-level tasks found to be significantly different, (although tasks under the cluster: 6.0 Manage the Learning Environment, were rated higher by the teacher groups) the jury tended to give higher importance ratings than the teacher groups to most of these significantly different tasks.

OBSERVATIONS

1. Teachers may not believe that they, as individuals, have responsibility for some of these tasks since a department chairman or supervisor may initiate program-level reform and teachers may then work in groups on the several tasks. Educational leaders, on the other hand, may view it as quite important to involve teachers as a group in program-level curriculum planning and thus give these tasks higher importance ratings than those given by the secondary school industrial education teacher.

2. The teacher who performs on a day-to-day basis may very well view given tasks quite differently than those who view their tasks from an elevated position in the educational hierarchy. The teacher tends to view as important those tasks his administration may assign. Particularly those tasks which are supervised or those that are visibly complete or incomplete would be thought to be important by the teacher. On the other hand, the jury may believe some of the more theoretical ends to be of high importance. The teacher, being a practitioner, would be expected to rate practice somewhat higher than theory.

RECOMMENDATIONS

1. In ordering tasks by importance rating, consideration should be given to elevating the importance rating given to each of these tasks by the industrial education teacher groups to the extent that the jury rated them higher. To the extent that the jury rated them lower consideration should be given to lowering the importance rating for such tasks.

2. In selecting tasks to include in pre-service and in-service programs of instruction for secondary school industrial education teachers, more consideration should be given to each of these tasks which the jury rated as being significantly different and higher than others which they rated at the same level but which were not significantly different from the jury ratings of importance.

3. In providing instruction, particularly to in-service secondary school industrial education teachers, extra attention to motivation for learning these tasks which the teachers rated lower and which were significantly different should be provided.

4. In supervising secondary school industrial education teachers, it should be recognized that they may not hold each task to be as important as do their supervisors.

5. For those professional tasks where significant differences between groups were found, instruction programs should be individualized to care for the development of those competencies.

6. For those professional tasks where no significant differences were found, common instruction programs should be provided to care for the development of the required competencies.

7. Since significant differences were found between various teacher groups and jury ratings of importance, it is recommended that to obtain a ranking of importance reflecting both jury and practitioner responses for these 327 third-level tasks that the medians be conbined and an importance rating be established which reflects both the ratings of the jury and the secondary school industrial education teacher. Since there was a substantial difference in the size of the jury (N=165) and the size of the secondary school industrial education teacher group (N=861), combining of the medians will give a statistic more equally responsive to the ratings of each group than to combine the two Ns, and then to re-calculate the median. The result will be a median giving equal value to the responses of the two groups.

Note: A bibliography may be found on pages 46-48 of Part I of this study.

APPENDIX A

IMPORTANCE OF TASKS

Responses by a Jury of Educational Leaders to the Importance They Attach to Tasks Performed by Successful Secondary School Industrial Education Teachers

Rank Order	Median (mdn)	IQR	Code	Tasks
1	4.424	1.250	5.0	FACILITATE LEARNING
1	4.653	3.942	5.3	Interact with students in a positive manner.
1	4.916	0.583	5.3.8	Express enthusiasm for your students and the subject matter
2	4.894	0.605	5.3.7	Provide students with clear understandings of what is expected of them and what they can expect from their teacher
3	4.825	0.704	5.3.3	Express interest in students
4	4.733	1.179	5.3.5	Plan individualized instruction with students
5	4.625	.256	5.3.10	Demonstrate an attitude of fairness and commitment on issues important to students
6.5	4.583	1.184	5.3.2	Establish atmosphere for positive group interaction
6.5	4.583	1.184	5.3.11	Use knowledge of students as a basis for positive interaction during instruction
8	4.535	1.086	5.3.1	Use processes of perceiving, communicating, knowing, co-responding, patterning, decision-making, creating, valuing, problem solving, and learning in interacting with students
9	4.444	1.229	5.3.6	Use student interests in planning student activity
10	4.357	1.101	5.3.4	Make provision for student input into instruction
11	4.000	1.546	5.3.9	Recognize and intereact with subcultures unique to the student population
2	4.520	1.240	5.1	Execute instructional plans and strategies.
1	4.928	0.571	5.1.1	Identify individual needs of students
2	4.886	0.613	5.1.5	Be aware of whether students are working safely and take appropriate preventative and corrective measures
3	4.705	1.067	5.1.3	Make students aware of instructional intent and proposed outcomes of instruction
4	4.678	1.053	5.1.4	Present lessons and related demonstrations
5	4.156	1.161	5.1.2	Find out what students expect from the instruction
6	4.133	0.890	5.1.6	Use educational resources in executing instructional plans
7	3.461	1.359	5.1.7	Conduct field trips and other outside-class activities

Rank Order	Median (mdn)	IQR	Code	Tasks
3	4.434	1.185	5.5	Teach the substantive content of the field.
1.5	4.666	1.033	5.5.2	Provide exploratory experience related to industry which will provide some students a basis for selecting an occupation and will provide all students respect for the pursuits of others
1.5	4.666	0.987	5.5.5	Provide experiences which contribute to the teaching of students to use processes, e.g.: perceiving, communicating, learning, decision-making, organizing, co-responding, creating, valuing, problem-solving
3	4.607	1.345	5.5.1	Provide experiences which will contribute to the student's understanding of industry as a major element in our culture
4	4.045	0.909	5.5.4	Provide experiences which some students may use as a base for developing avocational activities
5	4.000	1.119	5.5.3	Provide experiences for some students to prepare them for entry into appropriate industrially related occupations or to develop a base for advanced occupational education
4	4.302	1.158	5.4	Adjust plans and strategies based on observed feedback from students.
1	4.911	0.588	5.4.3	Adjust the learning environment (facilities) to provide optimum learning conditions
2	4.541	1.104	5.4.1	Be sensitive to solicited and unsolicited student feedback
3	4.466	1.101	5.4.2	Modify instructional methods in the light of student feedback
4	4.277	1.151	5.4.8	Be sensitive to non-verbal feedback
5	4.227	1.085	5.4.7	Make final decisions on placement of instructional sequences for optimum effectiveness
6	4.107	1.031	5.4.6	Capitalize on spontaneous student interests
7	4.038	0.923	5.4.5	Recognize and respond to external factors which influence planned instruction
8	4.031	0.984	5.4.4	Revise time allocations for instructional plans and strategies based on student feedback
5	4.056	1.434	5.2	Motivate students.
1	4.607	1.028	5.2.2	Win the students' attention and maintain level of arousal
2	4.444	1.286	5.2.3	Vary classroom routine to prevent monotony and boredom
3	4.300	1.200	5.2.8	Provide students immediate feedback to tests

Rank Order	Median (mdn)	IQR	Code	Tasks
4	4.250	1.250	5.2.5	Recognize and encourage evidences of response to internal motivation
5	3.964	1.375	5.2.6	Reward student achievement
6	3.954	1.416	5.2.1	Determine the entering dispositions of individual students
7	3.750	1.233	5.2.4	Recognize and encourage evidences of response to external motivation
8	3.125	1.372	5.2.7	Recognize and react to behavior which merits no reward

Rank Order	Median (mdn)	IQR	Code	Tasks
2	4.098	1.336	1.0	IMPROVE INDIVIDUAL'S COMPETENCIES
1	4.159	1.310	1.3	Use self-evaluation techniques.
1	4.346	1.241	1.3.2	Participate in self-evaluation techniques
2	4.181	1.256	1.3.1	Select a teaching position for which you feel qualified
3	4.041	1.381	1.3.3	Consult supervisory and administrative evaluations for self-improvement
4	4.000	1.428	1.3.4	Periodically self-reflect and evaluate education and life philosophies.
2	4.098	1.199	1.1	Provide for re-generation and development of competencies.
1	4.227	1.151	1.1.4	Accept professional assignments
2	4.208	1.179	1.1.5	Improve skills of interaction with others
3	4.125	1.010	1.1.1	Regenerate teaching skills and strategies
4	4.090	1.648	1.1.2	Improve your technical skills
5	3.818	1.162	1.1.3	Independently accept and solve technical and other problems related to teaching assignments
3	4.052	3.293	1.2	Keep up with development in the field.
1	4.375	1.262	1.2.1	Attend in-service seminars and workshops
2	4.357	1.378	1.2.3	Pursue further formal technical and professional education for self-improvement
3	4.062	1.646	1.2.4	Maintain membership in professional and technical organizations
4	4.058	0.735	1.2.2	Read current professional literature for self-improvement
5	4.000	1.566	1.2.5	Visit industries and consult with professional and technical personnel
6	3.454	1.781	1.2.6	Subscribe to educational and technical journals

Rank Order	Median (mdn)	IQR	Code	Tasks
3	4.071	1.359	3.0	DESIGN IN
1	4.453	1.193	3.5	Select teaching activities and strategies.
1	4.733	0.991	3.5.1	Plan strategies for teaching including meeting the needs of special groups
2	4.461	1.196	3.5.2	Integrate learning and teaching activities into instructional plans
3	4.153	1.115	3.5.3	Make decisions concerning the extent to which the instruction is to be individualized
2	4.324	1.249	3.4	Develop (or identify) student learning activities appropriate to each behavioral objective (make the content operational).
1	4.854	0.645	3.4.6	Plan experiences which will contribute to teaching students how to use processes, e.g.: perceiving, communicating, learning, decision-making, organizing, co-responding, creating, valuing, problem solving
2	4.607	1.028	3.4.7	Develop alternative learning activities to provide for individual student needs
3	4.500	1.100	3.4.2	Plan experiences which will contribute to the students' understanding of industry as a major element in our culture
4	4.428	1.296	3.4.3	Plan exploratory experiences related to industry which will provide some students a base for occupational choice and all students a respect for the pursuits of others
5	4.068	0.795	3.4.1	Consult resources to identify learning activities
6	3.937	1.791	3.4.4	Plan experiences for some students which will prepare them for entry into industrially related occupations or to develop a base for advanced occupational education
7	3.611	1.222	3.4.5	Plan experiences which some students may use as a base for developing avocational activities
3	4.250	1.275	3.1	Write performance objectives for each course.
1	4.700	1.199	3.1.4	Identify performance standard for performance objectives
2	4.461	1.038	3.1.3	Identify conditions under which student behavior modification will take place
3.5	4.055	.972	3.1.2	Identify student behavior or product of student behavior
3.5	4.055	1.392	3.1.5	Write the performance objective at the appropriate level and domain
5	4.785	1.785	3.1.1	Identify student population who will receive instruction

Rank Order	Median (mdn)	IQR	Code	Tasks
4	4.233	1.267	3.9	Prepare lesson plans for group and individualized instruction.
1	4.535	1.212	3.9.7	Sequence presentation of instructional materials
2	4.444	1.171	3.9.2	Identify and select learning activities for students
3	4.350	1.206	3.9.1	Write objectives for lesson plans
4	4.214	1.488	3.9.3	Identify and select appropriate teacher activities
5	4.200	1.112	3.9.4	Identify and select appropriate learning resources
6	4.050	1.651	3.9.6	Keep records of lessons planned and suggestions for improvement
7	3.961	0.846	3.9.5	Validate content against levels within domains for lesson plans
5	4.125	1.221	3.2	Organize objectives into appropriate sequences.
1	4.266	1.104	3.2.2	Group and sequence performance objectives into appropriate units of instruction
2	3.888	1.657	3.2.1	Identify which objectives are dependent on other objectives for their attainment
6	4.089	1.202	3.7	Develop a strategy for evaluating instruction.
1	4.678	0.995	3.7.2	Formulate a grading policy and plans for making it known to students
2	4.156	1.053	3.7.3	Plan for self-evaluation techniques to be used by students
3	4.076	1.098	3.7.5	Plan for student evaluation of course
4	4.038	0.923	3.7.4	Plan for written and manipulative performance tests
5	3.187	1.591	3.7.1	Decide whether evaluation will employ norm-based or mastery grading procedures
7	3.854	1.139	3.6	Identify and prepare instructional resources.
1	4.312	1.602	3.6.5	Prepare instructional materials
2	4.000	0.735	3.6.4	Review and select written resources for instruction
3	3.791	1.052	3.6.2	Review and select industrial resources
4	3.750	1.186	3.6.3	Review and select audio-visual resources
5	3.611	1.047	3.6.1	Review and select personnel resources
8	3.831	1.333	3.3	Validate content against domains and against levels within domains.
1	4.107	1.031	3.3.6	Make any needed adjustments to content by levels within each domain

Rank Order	Median (mdn)	IQR	Code	Tasks
2	4.000	1.166	3.3.3	Make adjustments to content within domains to obtain needed balance
3	3.866	1.133	3.3.4	Decide which levels within each domains should be represented and the balance of content that should be devoted to each
4	3.642	1.678	3.3.5	Observe whether the desired levels within domains are represented and what their balance is
5	3.607	1.249	3.3.2	Observe that the desired domains are represented and what their balance is
6	3.500	1.809	3.3.1	Decide whether each domain should be represented and the balance of content which should be devoted to each
9	3.354	1.624	3.8	Organize and complete the course of study.
1	3.714	1.681	3.8.3	Prepare a time-range plan suggesting a range of time allotted to each unit of instruction
2	3.666	1.656	3.8.2	Write course description
3	3.218	1.435	3.8.4	Arrange for the preparation of total course of study copy and subsequent distribution
4	2.600	1.937	3.8.1	Write introduction to course of study

Rank Order	Median (mdn)	IQR	Code	Tasks
4	4.006	1.512	4.0	NURTURE HUMANENESS
1	4.348	1.307	4.1	Nurture humaneness with students.
1	4.823	0.724	4.1.9	Encourage students to know that they are respected as individuals
2	4.761	0.952	4.1.5	Take time to listen to students and acknowledge their ideas and commitments as being worthy of expression
3	4.704	0.988	4.1.3	Maintain atmosphere where adventure in learning is encouraged without fear of consequences of failure
4	4.607	1.147	4.1.4	Encourage, recognize and acknowledge original ideas of students--even though imperfect and unfinished
5	4.375	1.171	4.1.10	Provide personal guidance to students
6	4.363	1.187	4.1.1	Encourage students to think of alternatives and to recognize knowledge as imperfect, incomplete, and tentative
7	4.187	1.312	4.1.6	Help students interpret their relationship to their environment
8	4.062	1.606	4.1.2	Admit that teachers also make mistakes and learn from them
9	4.047	0.833	4.1.8	Develop group and team learning situations to foster in students a mutual concern for one another
10	3.777	1.507	4.1.11	Extend the positive student-teacher relationship to include informal contacts
11	3.214	1.666	4.1.7	De-emphasize inter-student competition in the classroom as a basis for student achievement
2	4.173	1.192	4.4	Nurture humaneness to one's self.
1	4.176	1.109	4.4.2	Reassess personal objectives and take action to continue growth towards self-actualizing
2	4.166	1.333	4.4.1	Employ teacher traits in balance between those required for individual self-fulfillment and those required for successful teaching
3	3.850	1.618	4.2	Nurture humaneness with the school staff.
1	4.684	1.017	4.2.5	Employ tact and judgment in interacting with other school staff members
2	4.166	1.670	4.2.1	Accept assistance from and give assistance to fellow staff members
3	3.714	1.634	4.2.4	Serve on and cooperate with school staff committees
4	3.700	1.128	4.2.6	Offer recommendations in matters of school policy
5	3.541	1.172	4.2.2	Obtain and lend assistance to school projects being developed by other staff members
6	2.900	1.200	4.2.3	Participate in school staff social events

Rank Order	Median (mdn)	IQR	Code	Tasks
4	3.549	1.391	4.3	Nurture humaneness with parents and community.
1	4.200	1.000	4.3.6	Become familiar with services provided by the community, e.g.: public library, museums, other schools, cultural center, etc.
2	3.764	1.251	4.3.2	Evidence interest in graduated students
3	3.611	1.492	4.3.5	Identify and respect goals parents have for their children
4	3.535	1.146	4.3.4	Make provisions for personal contacts with parents concerning the progress of their children
5	3.500	1.473	4.3.3	Participate in parent-teacher functions
6	2.958	1.000	4.3.1	Participate in community activities and service organizations
7	2.909	1.110	4.3.7	Work with community service personnel, e.g.: librarians, social workers, clergy, training schools

Rank Order	Median (mdn)	IQR	Code	Tasks
5	3.954	1.356	10.0	EVALUATE PROGRAMS
1	4.364	1.258	10.4	Determine effectiveness of program implementation.
1	4.700	0.933	10.4.4	Assess adequacy of instructional materials for carrying out learning activities at the program level
2	4.656	1.109	10.4.5	Assess appropriateness of learning activities to the program
3	4.617	1.169	10.4.3	Determine appropriateness of course objectives in fulfilling student needs at the program level
4	4.450	1.154	10.4.2	Evaluate quality of instruction and teacher-student interrelationship within the program
5	3.933	1.088	10.4.6	Review sequences of courses comprising the program
6	3.687	1.437	10.4.1	Assess validity of original sources of curriculum content at the program level
2	4.057	1.155	10.3	Determine output characteristics of students.
1	4.766	0.847	10.3.1	Assess the degree of student achievement of program objectives
2	4.153	1.368	10.3.3	Determine the degree to which the industrial education program satisfies societal, industrial and individual needs
3	3.950	0.750	10.3.2	Review program-level follow-up studies to ascertain the usefulness of material learned
4	3.884	1.098	10.3.5	Determine whether students enjoy the curriculum and are generally happy with it
5	3.562	1.397	10.3.4	Compare present students achievement with previous student achievements in the program
3	3.945	1.440	10.2	Assess factors influencing program.
1	4.535	1.086	10.2.1	Determine interests, abilities and experiences of students entering the program
2	4.000	1.083	10.2.3	Review adequacy and utilization of facilities for program
3	3.958	1.513	10.2.2	Review teacher competencies with respect to program-level goals
4	3.666	1.538	10.2.5	Determine the degree of articulation with general, college preparatory and vocational programs
5	3.450	1.633	10.2.4	Determine utilization made of community resources in program-level development

Rank Order	Median (mdn)	IQR	Code	Tasks
4	3.553	1.213	10.1	Collect information at the program-level.
1	3.925	0.674	10.1.7	Interact with and evaluate professional program level curriculum viewpoints
2	3.714	1.500	10.1.2	Design and administer forms for evaluation of programs by students
3	3.650	1.302	10.1.3	Select (or design) and administer cognitive (knowledge) tests for evaluation of program
4	3.454	1.318	10.1.6	Consult advisory committees to determine quality of instructional program
5	3.428	1.107	10.1.1	Conduct program-level follow-up study
6	3.400	1.212	10.1.5	Select (or design) and administer tests of psychomotor abilities for evaluation of programs
7	3.236	1.060	10.1.4	Select (or design) and administer tests of attitudes for evaluation of the program

Rank Order	Median (mdn)	IQR	Code	Tasks
6	3.886	1.583	6.0	MANAGE LEARNING ENVIRONMENT
1	4.373	1.318	6.5	Respond to social-emotional climate.
1	4.888	0.611	6.5.7	Establish rapport and empathy with students
2	4.875	0.625	6.5.5	Be responsive to human needs of student
3	4.607	1.147	6.5.2	Demonstrate firmness, fairness and consistency in dealing with discipline problems
4	4.428	1.296	6.5.6	Use self-evaluation techniques regarding your inter-relationship with students
5	4.333	1.087	6.5.3	Develop alternate strategies for alleviating conditions which cause discipline problems
6	4.000	0.921	6.5.1	Identify internal and external causes of discipline problems
7	2.444	2.126	6.5.4	Use rewards and punishment to control deviant behavior
2	3.962	1.425	6.1	Plan for and organize the facilities needed for the program.
1	4.400	1.100	6.1.3	Plan layout for effective space utilization to meet program needs
2	4.153	1.115	6.1.7	Make an immediate and long range plan for acquisition of equipment and tools
3	4.083	1.736	6.1.6	Write specifications for equipment and tools
4.5	4.050	1.100	6.1.1	Identify and develop an industrial education program and the facility to house it
4.5	4.050	1.100	6.1.8	Prepare, submit, and defend budget requests for equipment and tools
6	4.038	1.441	6.1.2	Write a program statement for your shop or laboratory
7	3.388	1.333	6.1.4	Consult catalogs of industrial and educational supplies for specification of equipment available
8	3.384	1.492	6.1.5	Prepare a list of specific equipment and tools appropriate to program level and needs
3	3.908	1.483	6.3	Provide for maintenance.
1	4.291	1.157	6.3.4	Test and adjust tools and equipment prior to returning them to use after maintenance
2	4.214	1.488	6.3.2	Diagnose maintenance problems in tools and equipment
3	3.833	1.301	6.3.1	Develop and carry out a routine preventative maintenance schedule
4	3.366	1.350	6.3.3	Provide for maintenance by servicing or referral for service as appropriate

Rank Order	Median (mdn)	IQR	Code	Tasks
4	3.875	1.400	6.6	Establish physical conditions conducive to learning.
1	4.541	1.177	6.6.3	Establish classroom procedures which avoid confusion and provide freedom of movement to students
2	3.700	1.333	6.6.2	Take actions to enhance the room interior with displays, bulletin boards, etc.
3	3.607	1.336	6.6.1	Maintain control of comfortable temperature, lighting, and noise levels in classrooms and laboratories
5	3.651	1.500	6.2	Requisition and receive supplies and materials.
1	4.038	1.032	6.2.2	Prepare budgets for formal approval
2	3.692	1.371	6.2.3	Order new educational materials and supplies
3	3.392	1.537	6.2.1	Take inventory of supplies and materials
4	3.285	1.743	6.2.4	Receive and check in supplies and materials
6	3.397	1.597	6.4	Maintain records and filing systems.
1	4.125	1.032	6.4.2	Keep student progress records for each class
2	3.454	1.318	6.4.4	Keep a record of purchase orders and inventories
3	3.392	1.691	6.4.5	Keep records of student grades for each class taught
4	3.375	1.212	6.4.7	Keep an up-to-date industrial and educational supply catalog file
5	3.363	1.590	6.4.3	Keep equipment and tool inventories
6	3.000	2.495	6.4.1	Keep attendance records for each class taught
7	2.875	1.479	6.4.6	Keep records of federal and state funding programs

Rank Order	Median (mdn)	IQR	Code	Tasks
7	3.869	1.369	2.0	DESIGN PROGRAMS
1	4.214	1.255	2.6	Collect tasks into appropriate instructional groups for teaching (e.g., courses, units, etc.)
1	4.538	1.041	2.6.4	Develop objectives for course(s) consistent with program-level objectives
2	4.388	1.408	2.6.1	Identify student populations to be served as a basis for determining program experiences
3	4.000	1.208	2.6.2	Develop rationale for course(s) consistent with program-level rationale
4	3.958	1.214	2.6.3	Develop mission statement for course(s)
2	4.161	1.432	2.5	Develop new and existing programs in terms of expected task outcomes.
1	4.850	0.650	2.5.3	Develop program-level objectives
2	4.531	1.240	2.5.6	Correlate the industrial education program as a sub-system of the total educational program
3	4.115	0.891	2.5.5	Select tasks for which education and training are to be provided in the industrial education program(s)
4	3.812	1.427	2.5.4	Establish criteria for selection of tasks for education and training programs
5	3.727	1.474	2.5.1	Develop program-level rationale(s)
6	3.666	1.454	2.5.2	Develop program-level mission statement(s)
3	3.875	1.400	2.4	Analyze the study of society, industry and the individual to identify the problems and human needs toward which industrial education can make contributions.
1	4.033	1.029	2.4.2	Identify human needs including those of differing cultures
2	3.900	1.571	2.4.3	Examine previously proposed solutions and use or propose solutions to problems and ways to meet human needs through the program
3	3.888	1.263	2.4.4	Identify the jobs that need to be done toward which an industrial education program can contribute
4	3.857	1.584	2.4.1	Identify societal, industrial and individual problems toward which industrial education can contribute
5	3.791	1.156	2.4.6	Structure the content from which to draw for program-level curriculum development
6	3.727	1.722	2.4.5	Detail each job to be done in industrial education in terms of tasks to be performed for program-level curriculum development

Rank Order	Median (mdn)	IQR	Code	Task
4	3.814	1.287	2.8	Develop implementation strategies for new programs and changes in existing programs.
1	4.133	1.220	2.8.2	Read current literature on educational change and change strategy
2	4.071	0.964	2.8.11	Evaluate the effect of planned change on other curriculum areas and on the total curriculum
3.5	4.000	0.921	2.8.1	Establish curriculum implementation practices and sequence to move progressively from the existing system, through phases, into the planned system
3.5	4.000	1.669	2.8.3	Re-examine the rationale and fully develop the reasons (advantages) for making proposed changes
5	3.846	0.967	2.8.8	Develop alternate change strategies for program implementation
6	3.791	1.291	2.8.10	Prepare budget for proposed program changes
7	3.781	1.265	2.8.7	Plan an educational program for the consumers of a proposed change so that they may see the value of the change
8	3.615	1.405	2.8.9	Establish timetable for program change implementation
9	3.571	1.417	2.8.6	Plan an educational program for those who will implement the change so that the program and its ramifications are clearly understood
10	3.550	1.208	2.8.4	Consider the cultural values and past experiences of those persons who are supposed to make the change so that it is compatible to these values and experiences
11	3.125	1.000	2.8.5	Identify "opinion leaders" and enlist their support of proposed changes at the program level
5	3.813	1.476	2.1	Study society in general and its problems in particular to maintain and improve the relevance of industrial education goals to society.
1	4.250	1.326	2.1.2	Listen to and interact with presentations about current status and the future as input to program-level curriculum development
2	4.090	1.312	2.1.9	Establish tentative program-level goals for industrial education in relation to societal needs
3	4.050	1.220	2.1.5	Relate current problems to industrial education programs

Rank Order	Median (mdn)	IQR	Code	Tasks
4.5	4.000	1.701	2.1.6	Identify contributions that industrial education can make toward the solution of societal problems
4.5	4.000	0.857	2.1.8	Try promising approaches and alternatives to meeting the needs of society through industrial education programs
6	3.947	0.943	2.1.10	Suggest program-level improvements in industrial education based on societal needs
7	3.600	1.342	2.1.1	Read and interpret current and historical literature for program-level input
8	3.500	1.825	2.1.4	Project trends and make predictions based on societies' problems and needs for program-level curriculum development
9	3.357	1.833	2.1.7	Consider alternative solutions to societal problems at the program planning level
10	2.964	0.892	2.1.3	Make judgements about cause and effect in relating societal problems to industrial education programs
6	3.783	1.379	2.2	Study the institution of industry within our society as a source of the body of knowledge for industrial education.
1	4.500	1.428	2.2.2	Decide upon basic functions of industry to be studied in the program
2	4.000	0.857	2.2.3	Visit and observe representative industries as a source of the body of content for industrial education
3	3.964	0.892	2.2.5	Develop and maintain an up to date industrial resource file
4	3.843	0.973	2.2.9	Establish tentative program-level goals for industrial education in relation to industry
5	3.823	1.244	2.2.6	Identify past, present and probable future impacts of industry on society
6	3.821	1.281	2.2.4	Consult available industrial personnel as part of the study of the institution of industry
7	3.650	1.433	2.2.7	Study labor in industry as a basis for program-level curriculum development
8	3.500	1.431	2.2.1	Read magazines and journals that focus on industry as part of the study of the institution of industry
9	2.750	1.410	2.2.8	Select published taxonomy or develop a taxonomy of industry

Rank Order	Median (mdn)	IQR	Code	Tasks
7	3.775	1.278	2.7	Develop a plan for continual revision and improvement of programs.
1	4.450	1.102	2.7.3	Keep up with new literature related to general and industrial education for program improvement
2	4.250	1.001	2.7.1	Plan for student evaluation of courses and programs
3	3.454	1.136	2.7.4	Maintain a program-level instruction evaluation log book
4	3.400	1.137	2.7.5	Prepare follow up studies of graduates of the program
5	3.384	1.346	2.7.2	Consult with industrial and educational advisory board
8	3.757	1.303	2.3	Study group cultures and principles of learning in order to relate instruction to the individuals for whom the program and instruction is being planned.
1	4.285	1.487	2.3.3	Identify appropriate learning principles for target populations at the program level
2	3.725	1.048	2.3.2	Examine the characteristics of group cultures to improve understanding of attitudes, needs, and interests of those making up the culture for program-level input
3	3.400	1.325	2.3.1	Identify various group cultures that may compose target populations for programs

Rank Order	Median (mdn)	IQR	Code	Tasks
8	3.841	1.532	9.0	EVALUATE INSTRUCTION
1	4.426	1.214	9.1	Assess whether students have assimilated the material presented.
1	4.656	1.050	9.1.3	Apply methods to be used to evaluate instruction
2	4.562	1.181	9.1.1	Use the evaluation policy which was previously made known to students
3	4.100	1.193	9.1.2	Determine whether students met performance standards
2	4.068	1.175	9.4	Determine efficiency and effectiveness of instruction.
1	4.789	0.823	9.4.5	Appraise student performance in relation to instructional goals
2	4.093	1.157	9.4.3	Analyze student evaluation of instruction
3	4.066	1.088	9.4.1	Analyze and interpret results of instructional measurement
4	4.000	1.104	9.4.4	Compare pretest and posttest results
5	3.863	1.113	9.4.6	Determine whether students are generally happy with the instruction received
6	3.615	1.123	9.4.2	Consult with colleagues regarding assessment of your teaching
3	3.636	1.653	9.2	Construct and evaluate measuring instruments and procedures.
1	4.346	1.015	9.2.2	Formulate devices to measure cognitive (knowledge-type) behavior
2.5	3.785	1.642	9.2.3	Formulate devices to measure affective behavior (e.g., attitudes and values)
2.5	3.785	1.472	9.2.7	Evaluate tests in terms of useability, objectivity, difficulty, and discrimination
4	3.777	1.829	9.2.6	Analyze test instrument validity and reliability
5	3.772	1.318	9.2.1	Devise self-evaluation techniques for use by students
6	3.454	1.354	9.2.4	Formulate devices to measure psychomotor (manipulztive skill type) behavior
7	3.437	1.843	9.2.5	Develop pretests and posttests
8	2.178	1.178	9.2.8	Use computer to assist in analyzing test results

Rank Order	Median (mdn)	IQR	Code	Tasks
4	3.352	1.389	9.3	Administer evaluative experiences.
1	4.000	0.954	9.3.3	Administer written and manipulative performance tests
2	3.958	1.244	9.3.2	Conduct student self-evaluation procedures
3	3.266	1.400	9.3.1	Administer pretests and posttests
4	3.093	1.029	9.3.4	Maintain a daily instruction evaluation log book
5	2.857	0.985	9.3.5	Administer standardized tests

Rank Order	Median (mdn)	IQR	Code	Tasks
9	3.657	1.460	7.0	PROVIDE PROFESSIONAL SERVICE
1	4.077	1.070	7.4	Offer professional advice.
1	4.250	1.186	7.4.2	Suggest program and instruction improvements
2	4.066	1.088	7.4.1	Make laboratory and facility planning suggestions
3	3.964	0.892	7.4.3	Relate to administrators and school board to keep them informed of trends and new developments
2	3.982	1.307	7.7	Supervise student teachers.
1	4.576	1.163	7.7.5	Hold conferences with student teacher regarding his performance, progress and problems
2	4.250	1.157	7.7.1	Provide student-teacher with orientation to the school, classroom and community
3	4.133	1.108	7.7.6	Demonstrate effective techniques and methods for observation
4	4.095	0.849	7.7.8	Offer criticism, encouragement and suggestions in joint evaluation with student-teacher
5	3.954	1.079	7.7.4	Create situations so that the student teacher can initiate the instruction activities
6	3.888	1.697	7.7.7	Observe student teachers' performance in the classroom
7	3.705	1.245	7.7.9	Make formal evaluations of student teacher's performance
8	3.444	1.698	7.7.2	Prepare the class for the arrival of student teachers
9	3.428	1.500	7.7.3	Assign teaching responsibilities to student teacher
3	3.819	1.400	7.1	Advise and counsel students.
1	4.466	1.101	7.1.3	Recognize potential problems of students
2	4.357	1.378	7.1.1	Provide students with occupational information
3	4.133	1.108	7.1.8	Assist students with personal and occupational problems
4.5	4.000	1.085	7.1.4	Hold individual student conferences
4.5	4.000	0.916	7.1.11	Involve resource persons and agencies in assisisting students
6	3.875	1.333	7.1.7	Work with guidance counselors in assisting students
7	3.863	1.077	7.1.6	Assist students in developing good study habits
8	3.821	1.125	7.1.5	Confer with parents concerning student educational development

Rank Order	Median (mdn)	IQR	Code	Tasks
9	3.117	0.994	7.1.10	Assist students in securing and filling out job applications
10	2.944	1.533	7.1.2	Administer subject matter diagnostic tests
11	2.850	1.433	7.1.9	Write letters of recommendation
4	3.104	1.393	7.2	Participate in service activities of the educational and civic community.
1	3.444	1.708	7.2.2	Actively join in local, state, and national education activities
2	3.125	1.356	7.2.1	Serve on and chair school and community committees
3	3.000	1.281	7.2.4	Participate in school accreditation visits
4	2.958	1.270	7.2.3	Initiate and organize special community service committees as needed
5	2.949	1.638	7.5	Develop programs of professional service.
1	3.250	1.397	7.5.1	Organize and conduct workshops and in-service educational programs
2	3.187	1.758	7.5.3	Initiate remedial and summer programs for students
3	3.000	1.583	7.5.4	Serve as advisor to educational suppliers in development of new resources and instructional materials
4	2.571	1.360	7.5.2	Develop adult evening extension programs
6	2.898	1.122	7.3	Assist in general school duties.
1	3.150	1.206	7.3.1	Assist new teachers in system to understand policies, regulations and social functions of school
2	2.928	0.857	7.3.2	Participate in non-instructional school duties
3	2.906	0.869	7.3.4	Sponsor student club activities
4	2.678	1.342	7.3.3	Serve as class advisor
7	2.654	1.441	7.6	Contribute to literature of the field through technical and/or professional writing.
1	3.250	1.250	7.6.1	Write proposals appropriate to needs of the discipline
2	2.272	1.136	7.6.2	Write reviews of new tests, instructional aids, and media for education journals
3	2.222	1.438	7.6.3	Develop written instructional materials for publication

Rank Order	Median (mdn)	IQR	Code	Tasks
10	2.885	1.532	8.0	UTILIZE RESEARCH
1	3.511	1.279	8.7	Apply decision-making process to the solution of instructional problems.
1	3.846	1.038	8.7.2	Make decisions on courses of action to be taken based on research evidence
2	3.666	1.333	8.7.3	Take action based on decision from research evidence
3	3.590	1.191	8.7.1	Analyze potential courses of action applicable to needs (problems) as suggested by research results
4	3.083	0.897	8.7.4	Evaluate action taken based on research findings
2	3.383	1.266	8.5	Cooperate in research effort of others.
1	3.891	0.739	8.5.1	Assist in implementation and evaluation of innovative programs
2	2.958	0.987	8.5.3	Organize and set-up pilot programs in cooperation with other researchers
3	2.900	1.066	8.5.2	Assess and respond to educational research instruments
3	3.345	1.687	8.1	Identify needs (problems) amenable to research.
1	4.444	1.171	8.1.2	Identify causes and unfulfilled needs which contribute to classroom problems
2	3.357	1.491	8.1.4	Review available research applicable to identified problem
3	3.142	1.493	8.1.1	Develop an awareness of the need for solving educational problems through research
4	2.769	1.598	8.1.3	Estimate and evaluate factors such as time, cost and value as a basis for selection of a research problem
4	2.926	1.418	8.6	Read and interpret research findings both as a consumer and as a researcher.
1	3.750	1.093	8.6.7	Determine potential application and usefulness of research findings to his own situation
2	3.050	1.477	8.6.6	Evaluate the conclusions of a research report
3	2.933	1.158	8.6.5	Review the analysis of research data
4	2.900	1.400	8.6.2	Inspect research reports for adequate descriptions of the major elements of the research study

Rank Order	Median (mdn)	IQR	Code	Tasks
5	2.642	1.428	8.6.4	Assess the validity and reliability of research procedures
6	2.642	1.555	8.6.1	Read the research report and identify the major parts
7	2.562	1.275	8.6.3	Evaluate the sampling procedures of research reports
5	2.853	1.274	8.3	Conduct proposed research.
1	3.187	1.402	8.3.3	Draw conclusions and project implications based on analysis of research data
2	2.805	1.152	8.3.2	Analyze and interpret data collected for research studies
3	2.625	1.312	8.3.1	Collect research data by appropriate methods, e.g., historical, descriptive, experimental
6	2.424	1.449	8.2	Prepare proposals for researching a problem.
1	2.708	1.379	8.2.7	Develop a management strategy for the control of research
2	2.705	1.303	8.2.4	Select and describe the research design to be used in a proposed research study
3	2.666	1.603	8.2.1	Develop a concise statement of the research problem
4	2.500	1.298	8.2.8	Prepare a budget estimate in fiscal terms for a research study
5	2.454	1.224	8.2.3	Formulate objectives or hypotheses to be answered through research study
6	2.400	1.361	8.2.9	Submit research proposal to appropriate funding bodies
7	2.181	1.344	8.2.6	Select or develop an instrument appropriate to a researchable problem
8	1.916	1.718	8.2.5	Select a population for a particular research study
9	1.888	1.533	8.2.2	Write a rationale for a research study including a review of literature
7	2.413	1.539	8.4	Write research reports.
1	2.750	1.156	8.4.1	Complete preparation of preliminary draft of research report, e.g.: introduction, methods, body, conclusions, implications, bibliography, appendices
2	2.250	1.727	8.4.3	Complete final draft of research report
3	2.000	1.510	8.4.2	Formally review and revise preliminary draft of research report