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ABSTRACT

The purposes of the study were: (1) to ascertain the professional competencies needed by trade and industrial teachers to be effective, as perceived by successful trade and industrial teachers, administrators, supervisors, and teacher educators; (2) to ascertain whether the teachers felt that they had the opportunity and instruction available to develop or acquire the competencies needed to teach effectively; and (3) to construct an instrument for administrators to evaluate trade and industrial teachers' performance. The 169 participants identified 164 competencies in rank order of importance; teachers, administrators, supervisors, and educators were in high agreement as to the necessary competencies and their order of importance. It was discovered that teachers have the greatest opportunity to develop or acquire those competencies to which they assigned highest ratings, while they have less opportunity to develop or acquire those competencies to which they assigned lowest ratings. The competencies were grouped into clusters of: (1) essential preservice competencies, (2) important inservice competencies, and (3) competencies to be developed when time permits. A five-page instrument for administrators and supervisors to use in rating the trade and industrial teachers' performance was developed and is included in the document. The findings of the study are presented in tables of data. (Author/AJ)

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TECHNICAL & VOCATIONAL STUDIES
BUSINESS EDUCATION
INDUSTRIAL ARTS
INDUSTRIAL TECHNOLOGY
VOCATIONAL EDUCATION
EDUCATIONAL LEADERSHIP

July 18, 1975

Mrs. Margaret B. Senne, Chairperson
Brevard County School Board
Route 2 Box 237
Melbourne, Florida 32901

Dear Mrs. Senne:

This document is submitted as a response from Florida Trade and Industrial Teachers relative to the teaching skills and knowledge which they feel are needed for teaching success in a vocational program. It also includes information relative to assistance and availability of instruction to enable the teachers to develop these needed teaching skills and knowledge, and further, it includes an instrument which program administrators and supervisors may find useful for evaluating teachers' performance and improving instruction.

Developing trends indicate that future teacher training programs are likely to be based on teachers developing teaching competencies rather than the amount of hours by course designated to developing competencies. The findings of this study have implications for future teacher training programs and Florida Teacher Certification Requirements. One hundred and sixty-four (164) competencies were identified in rank order of importance with certain competencies in this group designated to be developed before the teacher begins teaching and the remainder of the competencies designated to be developed after the teaching begins.

It has been a professional honor for our faculty to conduct this study for the Florida State Advisory Council on Vocational Education. We are always delighted to provide service to vocational educators.

Sincerely,

Lawrence H. Perkins

Lawrence H. Perkins
Chairman

LHP/jhs

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purposes of the study were; (1) to ascertain the professional competencies needed by trade and industrial teachers to be effective as perceived by successful trade and industrial teachers, administrators and supervisors and teacher educators; (2) to ascertain whether the teachers felt that they had the opportunity and instruction available to develop or acquire the competencies needed to teach effectively and (3) to construct an instrument for administrators to evaluate trade and industrial teachers' performance.

Two check list type information forms were developed for the purposes of the study. Usable data were collected from 133 teachers, 23 teacher educators and 13 administrators and supervisors to identify competencies needed by successful trade and industrial teachers, the relative importance of the competencies and availability of opportunity and instruction for the teachers to develop or acquire the needed competencies. Data such as age, sex, qualifications, experience, salary, membership in professional organizations and school and community size and location were also collected for identifying basic characteristics of the teachers.

Statistical treatment of the data included the Point-Biserial Correlation, Kendall's Rank Correlation, the Students' T Test, Mean, Standard Deviation and Rank Order for analysis and reporting the findings of the study. Findings of the study were considered in constructing an instrument for administrators to rate trade and industrial teachers' performance in laboratory and classroom teaching.

Summary of the Findings

The participants identified 164 competencies in rank order of importance as those needed by trade and industrial teachers to be effective.

The results indicated a significantly high degree of agreement (at the .01 confidence level) among the teachers, the teacher educators and the administrators and supervisors relative to ratings assigned to the 164 competencies needed by trade and industrial teachers to be effective.

The competencies were grouped into clusters of - Essential pre-service competencies - Important in-service competencies and Competencies to be developed when time permits.

The Essential Pre-Service Competencies which received the highest ratings and were identified by more than fifty percent of the teachers to be developed before teaching begins were - developing and maintaining a teaching specialty - constructing a course of study - planning safety instruction - using live work in the laboratory for learning experiences (e.g., automobile repair) - establishing criteria for evaluating student performance - selecting textbooks and reference materials - demonstrating personal appearance and behavior appropriate for a professional teacher - providing for individual differences - knowing Florida Program and Facility Standards and using craft advisory committees.

The Important In-Service Competencies which received middle to high ratings and were identified by less than fifty percent of the teachers to be developed before the teaching begins were in the categories of - laboratory use and maintenance - attitude development by the teacher - teaching methods - evaluation skills - curriculum development and - some administrative skills.

The Competencies To Be Developed When Time Permits generally were assigned middle to low ratings and were identified by a majority of the teachers, more than fifty percent, to be developed after the teaching begins. The competencies were in the categories of - professional development activities - student related activities - administrative related activities and - community service type activities.

While all of the teachers assigned ratings to 164 competencies included in the information form, significantly different ratings were assigned to three competencies by construction trade teachers, eight competencies by the electrical and electronic teachers, seven competencies by the personal service type occupational teachers and nine competencies by the mechanics trade teachers. Generally, the construction trade teachers and the electrical and electronic teachers assigned higher ratings to items they designated different from the remainder of the participating teachers while the personal service type occupational teachers and the mechanics trades teachers assigned lower ratings to items they designated significantly different from the remainder of the participating teachers.

The data indicate that 50 percent of the teachers had instruction available to develop 94 percent of the competencies. Instruction which was identified as available to the highest percent of teachers to assist them in developing the competencies included: principles, philosophy and curriculum development - course construction - lesson planning and instructional unit planning - selecting and using teaching aids - using content in professional and technical journals - using a variety of teaching methods and techniques - constructing multiple choice and performance items for measuring students achievements - displaying vigor, enthusiasm and interest in students and teaching and - encouraging students to develop a positive attitude toward school, the program and learning.

Instruction which was identified as available to the lowest percent of teachers to assist in developing competencies included: establishing and conducting cooperative work study programs - maintaining information on Vocational Industrial Clubs of America - planning internship for future teachers - community service such as providing consultant assistance to local business and industry - publishing articles - promoting public awareness of community surveys - preparing travel budgets - aiding students in procuring work permits and - assisting in noninstructional school activities.

The data provided for the study indicated the following major observations relative to teachers in trade and industrial programs: while 90 percent are male, 10 percent are female - their average age is 49.2 years and their teaching experience averages 6.9 years - they work in large and small schools located in large and small communities - while 46 percent have completed two years of college or less, 31 percent have completed a four year college degree or more - approximately 93 percent are certified with a Florida Standard Rank III Teaching Certificate or higher - their average salary is $11,484. per year - while 15 percent are members of the American Vocational Association and 12 percent are members of the Florida Vocational Association, 71 percent did not respond as members of any professional teacher's organization.

An instrument for administrators and supervisors to rate the trade and industrial teachers' performance was developed to be duplicated and used by school staff interested in upgrading and improving instruction (See Figure 1, Page 52).

Conclusions

Insofar as the instruments were valid, the data reliable and complete and the participants were valid sources of information the findings of the study suggest the following conclusions:

Trade and industrial teachers, supervisors, school administrators and teacher educators perceive and identify 164 professional teaching competencies which are needed by trade and industrial teachers to be effective in their classrooms and laboratories. (The competencies are included, in Section II of this study, in rank order of importance.)

Trade and industrial teachers, supervisors, school administrators and teacher educators are in high agreement as to the competencies needed by trade and industrial teachers and the order of importance of these competencies.

Opportunity and assistance to enable teachers to develop or acquire the competencies is synchronized with the order of importance of competencies identified. Teachers have greatest opportunity and assistance to develop or acquire those competencies which they assigned highest ratings, while they have less opportunity to develop or acquire those competencies which they assigned lowest ratings.

Recommendations

The findings and conclusions of this study suggest the following recommendations:

(1) Trade and industrial teachers should develop competencies in the following areas before they begin teaching in a vocational trade and industrial program:

Developing and maintaining a teaching specialty - constructing a course of study, an instructional unit, a lesson plan and an occupational analysis - planning safety instruction - using live work in the laboratory for learning experiences (e.g., automobile repair) - establishing criteria for evaluating student performance - selecting textbooks and reference materials - demonstrating personal appearance and behavior appropriate for a professional teacher - providing for individual differences - knowing Florida Program and Facility Standards and - using craft advisory committees.

(2) Trade and industrial teachers should be provided with the opportunity and assistance to develop competencies in the following areas immediately after they begin teaching in vocational trade and industrial programs:

Constructing a laboratory utilization plan to include provisions such as - conducting periodic maintenance of tools, equipment and supplies - maintaining efficient housekeeping procedures - using

time and materials efficiently - managing and using equipment and supplies efficiently - maintaining an adequate inventory of supplies and - knowing teacher responsibilities and liabilities.

Developing positive attitudes toward the student, learning, the school objectives, machine and tool use and care, work and manual labor - motivating students to succeed and - displaying vigor, enthusiasm and interest in students and in teaching.

Developing teaching skills such as the lecture method, the lab demonstration method and applying appropriate principles of learning - using oral and written communications effectively and - developing strategies for teaching the disadvantaged and handicapped students.

Developing evaluation skills such as constructing performance exams, multiple choice items, matching items, true-false items, oral exams, picture exams and - developing strategies for reporting student achievements.

Developing curriculum development skills to include formulating a personal philosophy of vocational education, establishing goals, aims and objectives and - using information available in professional and technical publications.

Developing some administrative skills to include budgeting, planning new facilities, buildings and laboratories - completing reports and - assisting in establishing admissions criteria for students admitted to various vocational programs.

(3) Trade and industrial teachers should be provided with the opportunity and assistance to develop competencies in the following areas after they begin teaching in a vocational trade and industrial program:

Professional development activities such as - selecting and using professional publications - analyzing test item for revision - history - legislation - using individualized programmed instruction and maintaining ones own personnel file.

Student related activities including - discipline - finding jobs - referring students to further education - record keeping - assisting in co-op programs - teaching job interview techniques - conducting follow-up studies - correcting situations which hinder student achievements and - promoting and assisting in student club activities such as Vocational Industrial Clubs of America.

Administrative related activities including - purchasing - planning for gifts to the school - conducting program evaluation - preparing travel budget - planning for teacher education courses and - assisting in planning internship for future teachers.

The activities which appear to be school and community related services including - maintaining working relationship with other teachers - maintaining working relationship with labor and manpower organizations - using community resources effectively - providing service to the community - identifying research problems - conducting open house - supporting civic, social and professional organization - giving presentations about the school program - preparing publications - providing consultant service and - assisting with non-instructional school activities.

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INTRODUCTION

Skilled workers are employed to teach in vocational trade and industrial programs with little or no professional preparation. The major qualification requirements are high school graduation, plus two years work experience at the trained employee level in the area of specialization the tradesman is employed to teach. Thus, as an example, the heavy equipment operator with two years of experience as a journeyman may be employed in a vocational program to teach his trade to young people.

Learning to plan, organize, present and evaluate the instruction is necessary if the teacher is to be successful. Since the tradesman is usually employed full time to teach the skills and knowledge of the trade, professional teaching skills must be learned and developed during the non teaching hours after employment begins. Activities to assist the trade teacher to learn these skills are planned and directed by professional educators employed by the state's universities or, in some few situations, by local district school boards.

Generally teacher educator activities are selected from professional literature which is written by the nation's leading teachers, administrators, supervisors and teacher educators. Homogeneous activities are grouped separately and presented to the trade teacher in a logical sequence as instructional units which are organized as courses. While this procedure would appear to be valid the trade teacher may be unable to pursue the sequence of offerings or the learning activities may not serve his unique need to enhance success in the classroom and laboratory. A review of recent research findings reveals no information of a survey of Florida Trade and Industrial Teachers to identify content and procedures needed for developing professional teaching competencies

for success in the classroom and laboratory. The problem is that professional competencies for successful Florida Trade and Industrial Teachers have not been identified.

Purpose of the Study

The purposes of the study were; (1) to ascertain the professional competencies needed by trade and industrial teachers to be effective as perceived by successful trade and industrial teachers, administrators and supervisors and teacher educators; (2) to ascertain whether the teachers felt that they had the opportunity and instruction available to develop or acquire the competencies needed to teach effectively and (3) to construct an instrument for administrators to evaluate trade and industrial teachers' performance. More specifically, data for the study were collected to provide answers for the following questions:

(1) Which competencies were suggested and which were most important as identified by:

(a) successful trade and industrial teachers?

(b) administrators and supervisors?

(c) teacher educators?

(2) What degree of relationship exists among the following groups of participants relative to the importance attached to the competencies?

(a) administrators and supervisors.

(b) teacher educators.

(c) trade and industrial teachers grouped by years of teaching experience and into clusters of related occupations.

(3) Can competencies identified by the participants be categorized into clusters? Can relative importance be identified with clusters?

(4) What are the basic characteristics of successful trade and industrial teachers?

(5) Do trade and industrial teachers feel they had the opportunity and instruction to acquire the competencies needed to teach effectively?

Two check list type information forms were developed for the purposes of the study. Usable data were collected from 133 teachers, 23 teacher educators and 13 administrators and supervisors to identify competencies needed by successful trade and industrial teachers, the relative importance of the competencies and availability of opportunity and instruction for the teachers to develop or acquire the needed competencies. Data such as, age, sex, qualifications, experience, salary, membership in professional organizations and school and community size and location were also collected for identifying basic characteristics of the teachers.

Statistical treatment of the data included the Point Biserial Correlation, Kendall's Rank Correlation, the Students' T Test, Mean, Standard Deviation and Rank Order for analyzing and reporting the findings of the study.

The Procedure of the Study

The purposes of the study were constructed in question form as guides for the conduct of the study. The information needed for formulating answers to the questions was identified. A comprehensive review of research and professional literature relative to teacher competencies was conducted and pertinent information was used to construct the first draft of the information form.

Participation was solicited from 23 trade and industrial teacher educators employed by the States' Universities, 13 selected trade and industrial education program administrators and supervisors and a random sample of 600 successful trade and industrial teachers employed in Florida School Districts and Junior/

Community Colleges.

The first draft of the information form was sent to the teacher educators, administrators and supervisors and 8 recognized expert teachers for their completion and suggestions for change and revision before it was sent to the participating teachers. Suggestions for instrument revision were few and were included in the finished product. The instrument was duplicated and sent to 600 teachers who had indicated that they would participate by completing and returning a post card which was included in the letter requesting their participation. Completed information forms were received from 168 teachers after a second follow-up letter,with an information form,was sent requesting them to complete and return the information form. One hundred and thirty-three (133) of 168 returned information forms contained usable data for the study (see Tables I and II for respondents by county and by school).

The returned information forms were edited and coded before the data were punched on computer cards and stored in the computer memory system. The computer was used to tabulate and order the data and also to administer the statistical treatment for data analysis. Findings of the study were considered in constructing an instrument for administrators to rate trade and industrial teachers' performance in laboratory and classroom teaching (see Section V, page 50 for details).

Definitions of Terms

For the purpose of the study the major terms are defined as follows:

Administrators and Supervisors - First level supervisors and administrators of trade and industrial school programs and classes. These are frequently the responsibilities of one person and are difficult to identify and separate.

Professional Competencies - Knowledge and skills necessary for teachers to be successful in the classroom and laboratory teaching such as "giving a laboratory demonstration," "constructing a comprehensive course of study" and others.

Successful Teachers - Trade and industrial teachers who have achieved the Standard Rank III Florida Teacher Certification.

Teacher Educators - Faculty employed as industrial teacher educators by the States' Universities.

TABLE I

REPRESENTATION OF RESPONDENTS BY COUNTY
(N = 133)

County	Number of Respondents	County	Number of Respondents
01 Alachua	3 (2.3%)	35 Lee	2 (1.5%)
03 Bay	8 (6.1%)	36 Leon	5 (3.8%)
04 Bradford	2 (1.5%)	37 Levy	1 (0.75%)
05 Brevard	6 (4.5%)	38 Liberty	1 (0.75%)
06 Broward	4 (3.0%)	40 Manatee	5 (3.8%)
08 Charlotte	1 (0.75%)	41 Marion	3 (2.3%)
09 Citrus	2 (1.5%)	42 Martin	1 (0.75%)
10 Clay	1 (0.75%)	43 Monroe	1 (0.75%)
12 Columbia	1 (0.75%)	44 Okaloosa	5 (3.8%)
13 Dade	10 (7.6%)	46 Orange	4 (3.0%)
14 DeSoto	1 (0.75%)	48 Palm Beach	5 (3.8%)
15 Dixie	1 (0.75%)	49 Pasco	1 (0.75%)
16 Duval	3 (2.3%)	50 Pinellas	5 (3.8%)
17 Escambia	3 (2.3%)	51 Polk	5 (3.8%)
18 Flagler	1 (0.75%)	52 Putnam	1 (0.75%)
22 Gulf	1 (0.75%)	53 St. Johns	5 (3.8%)
23 Hamilton	2 (1.5%)	54 St. Lucie	1 (0.75%)
24 Hardee	1 (0.75%)	55 Santa Rosa	1 (0.75%)
25 Hendry	1 (0.75%)	56 Sarasota	5 (3.8%)
27 Highlands	1 (0.75%)	62 Volusia	3 (2.3%)
28 Hillsborough	6 (4.5%)	63 Wakulla	1 (0.75%)
31 Jackson	3 (2.3%)	65 Washington	4 (3.0%)
34 Lake	6 (4.5%)	No Response	21 (0.75%)

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TABLE II

REPRESENTATION OF RESPONDENTS BY SCHOOL
(N = 133)

SCHOOL	NUMBER OF RESPONDENTS
Allapattah Junior High School	1 (0.75%)
Apopka Memorial High School	1 (0.75%)
Bradford-Union Vocational-Technical Center	2 (1.5%)
Brevard Community College	3 (2.3%)
Carrabelle High School	1 (0.75%)
Central Florida Community College	2 (1.5%)
Charlotte High School	1 (0.75%)
Chiefland High School	1 (0.75%)
Chipola Junior College	3 (2.3%)
Citrus High School	1 (0.75%)
Clay County High School	1 (0.75%)
Clearwater Comprehensive Junior High School	1 (0.75%)
Cocoa High School Adult Center	1 (0.75%)
Colonial High School	1 (0.75%)
Columbia County High School	1 (0.75%)
Coral Shores High School	1 (0.75%)
Daytona Beach Community College	2 (1.5%)
Deland High School	1 (0.75%)
Desoto High School	1 (0.75%)
Dixie County High School	2 (1.5%)
Eau Gallie High School	1 (0.75%)
Flagler-Palm Coast High School	1 (0.75%)
Florida Junior College at Jacksonville	2 (1.5%)
Forest High School	1 (0.75%)

(Continued on next page)

TABLE II (Continued)

REPRESENTATION OF RESPONDENTS BY SCHOOL
(N = 133)

SCHOOL	NUMBER OF RESPONDENTS
Fort Pierce Central High School	1 (0.75%)
Glades Central High School	1 (0.75%)
Goodwill Industries	1 (0.75%)
Gulf High School	1 (0.75%)
Hamilton County High School Complex	1 (0.75%)
Hardy Senior High School	1 (0.75%)
Labelle High School	1 (0.75%)
Lake County Area Vocational-Technical Center	6 (4.5%)
Lee County Area Vocational-Technical Center	2 (1.5%)
Leto Adult High School Center	2 (1.5%)
Lewis M. Lively Area Vocational-Technical Center	5 (3.8%)
Liberty Community High School	1 (0.75%)
Lindsey-Hopkins Education Center	1 (0.75%)
Manatee Area Vocational-Technical Center	4 (3.0%)
Martin County High School Adult Center	1 (0.75%)
Miami Carol City Senior High School	3 (2.3%)
Miami Central High School Adult Center	1 (0.75%)
Miami Jackson High School Adult Center	1 (0.75%)
Miami Lakes Technical Education Center	1 (0.75%)
Milton High School	1 (0.75%)
Northeast High School (Ft. Lauderdale)	1 (0.75%)
North Technical Education Center (Riviera Beach)	4 (3.0%)
Okaloosa-Walton Junior College	5 (3.8%)
Orange County Vocational and Adult Center	1 (0.75%)

(Continued on next page)

TABLE II (Continued)

REPRESENTATION OF RESPONDENTS BY SCHOOL
(N = 133)

SCHOOL	NUMBER OF RESPONDENTS
Pensacola Junior College - General Education Division	3 (2.3%)
Pinellas County City Center for Learning	3 (2.3%)
Polk Vocational-Technical Center	5 (3.8%)
Port St. Joe Adult Center	1 (0.75%)
Rockledge High School	1 (0.75%)
Santa Fe Community College	3 (2.3%)
Sarasota County Vocational-Technical Center	5 (3.8%)
Sheridan Vocational Center	3 (2.3%)
South Florida Junior College	2 (1.5%)
St. Augustine Technical Center	5 (3.8%)
Stanton Vocational Evening Center	1 (0.75%)
Tampa Bay Area Vocational-Technical Center	4 (3.0%)
Tom P. Haney Vocational-Technical Center	9 (6.9%)
Wakulla High School	1 (0.75%)
Washington-Holmes Area Vocational-Technical Center	4 (3.0%)
Withlacoochee Area Vocational-Technical Center	1 (0.75%)
Wymore Vocational-Technical Center	1 (0.75%)
No Response	1 (0.75%)

SECTION II

COMPETENCIES OF SUCCESSFUL TEACHERS

One purpose of the study was to ascertain the professional competencies needed by trade and industrial teachers to be effective as perceived by successful trade and industrial teachers, administrators and supervisors and teacher educators. More specific purposes of the study were to provide answers to the following questions:

(1) Which competencies were suggested and which were most important as identified by:

(a) successful trade and industrial teachers?

(b) administrators and supervisors?

(c) teacher educators?

(2) What degree of relationship exists among the following groups of participants relative to the importance attached to the competencies?

(a) administrators and supervisors.

(b) teacher educators.

(c) trade and industrial teachers grouped by years of teaching experience and into clusters of related occupations.

(3) Can competencies identified by the participants be categorized into clusters? Can relative importance be identified with clusters?

The purposes of this section are to report the responses from the teachers, administrators and supervisors and teacher educators relative to (1) competencies needed for teachers to be effective, (2) importance assigned to the competencies identified, (3) the degree of relationship among participants relative to importance assigned to competencies and (4) clusters of competencies.

Usable data were returned from 133 teachers, 13 administrators and

supervisors and 23 teacher educators. Participants completed the information form by using a check mark (✓) to assign values of "Essential," "Important," "Moderately Important" and "Unimportant" to each of the 164 competencies included in the information form. The check mark was also used to designate if the teacher should develop the competencies before or after the teaching begins. The data collected from the participants were punched on computer cards, verified and stored in computer memory files. The statistical treatment included assigning numerical values to each response by each participant in the following manner: "Essential" = 1, "Important" = 2, "Moderately Important" = 3 and "Unimportant" = 4. Mean scores were computed for each of the 164 competencies and the competencies were then ranked in order of importance with lowest mean scores reflecting most important competencies and highest ratings and highest mean scores reflecting least important competencies and lowest ratings.

Responses from the participants were separated into three sub-groups; (1) response from teachers with 3 to 5 years teaching experience, (2) response from teachers with more than 5 years teaching experience and (3) response from teacher educators, administrators and supervisors. The data from each group were treated with the Point-Biserial Correlation to test the significant difference of rating assigned to each competency against ratings assigned to the total group of competencies on the test. The results indicated that there were no items which received ratings significantly different from the total of each group. The Kendall Rank Correlation was used to test the degree of agreement between ratings assigned by teachers as compared to administrators and supervisors and teacher educators. The results indicated a significantly high degree of agreement (at the .01 confidence level) among the 3 sub groups relative to the ratings assigned to the 164 competencies on the information

form. Therefore, the data reported in this section includes the exclusive response from 133 successful teachers (see Table III, page 17), which would logically present the most valid recommendation available relative to competencies needed by successful teachers. Since the agreement among participants providing information for the study was highly significant the response by the teachers also presents highly valid responses by the administrators, supervisors and teacher educators.

An analysis of the tabulated data would indicate that the percent figure suggesting developing the competencies "before" or "after" teaching begins presented a logical procedure for grouping or clustering the competencies plus a criteria for sequencing the competencies into a total instructional package. The ratings for ranking the competencies in order of importance appear to generally support the percent figures suggesting that the competencies be developed "before" or "after" the teaching begins. As an example, a relatively high percent of the teachers (79.5%) indicated that the competency "Plar a unit of instruction" should be developed "before" teaching begins and in a similar manner they assigned it a relatively high rating for ranking it number 7 in order of importance among 164 competencies. Conversely, the competency "Prepare articles for publication in professional and technical journals" was rated relatively low, 161st, in rank order of importance and in a similar manner a relatively low percent (4.7%) of the teachers indicated that the competency should be developed "before" teaching begins. The following observations are based on the validity of logic presented with competencies organized in clusters of (1) Essential Pre-Service Competencies, (2) Important In-Service Competencies and (3) Competencies To Be Developed When Time Permits.

Essential Pre-Service Competencies

The competencies which received the highest ratings and were identified by more than fifty percent of the teachers to be developed before teaching begins are in the following areas:

> Developing and maintaining a teaching specialty - constructing a course of study, an instructional unit, a lesson plan and an occupational analysis - planning safety instruction - using live work in the laboratory for learning experiences (e.g., automobile repair) - establishing criteria for evaluating student performance - selecting textbooks and reference materials - demonstrating personal appearance and behavior appropriate for a professional teacher - providing for individual differences - knowing Florida Program and Facility Standards and - using craft advisory committees.

Important In-Service Competencies

The competencies which received middle to high ratings and were identified by less than fifty percent of the teachers to be developed before the teaching begins were in the following areas:

> Constructing a laboratory utilization plan to include provisions such as conducting periodic maintenance of tools, equipment and supplies - maintaining efficient housekeeping procedures - using time and materials efficiently - managing and using equipment and supplies efficiently - maintaining an adequate inventory of supplies and - knowing teacher responsibilities and liabilities.
>
> Developing positive attitudes toward the student, learning, the school objectives, machine and tool use and care, work and manual labor - motivating students to succeed and - displaying vigor, enthusiasm and interest in students and in teaching.
>
> Developing teaching skills such as the lecture method, the lab demonstration method and applying appropriate principles of learning - using oral and written communications effectively and - developing strategies for teaching the disadvantaged and handicapped students.
>
> Developing evaluation skills such as constructing performance exams, multiple choice items, matching items, true-false items, oral exams, picture exams and - developing strategies for reporting student achievements.
>
> Developing curriculum development skills to include formulating a personal philosophy of vocational education, establishing goals, aims and objectives and - using information available in professional and technical publications.

Developing some administrative skills to include budgeting, planning new facilities, buildings and laboratories - completing reports and - assisting in establishing admissions criteria for students admitted to various vocational programs.

Generally, the competencies receiving middle to high ratings seemed to fit into groups of (1) laboratory use and maintenance, (2) attitude development by the teacher, (3) teaching methods, (4) evaluation skills, (5) curriculum development and (6) some administrative skills.

Competencies To Be Developed When Time Permits

Competencies in this category generally were assigned middle to low ratings and were identified by a majority of the teachers, more than fifty percent, to be developed after the teaching begins. The competencies seemed to fit into groups of (1) professional development activities, (2) student related activities, (3) administrative related activities and (4) community service type activities. The groups of competencies are as follows:

Professional development activities such as - selecting and using professional publications - analyzing test item for revision - history - legislation - using individualized programmed instruction and maintaining ones own personnel file.

Student related activities included - discipline - finding jobs - referring students to further education - record keeping - assisting in co-op programs - teaching job interview techniques - conducting follow-up studies - correcting situations which hinder student achievements and - promoting and assisting in student club activities such as Vocational Industrial Clubs of America.

Administrative related activities included - purchasing - planning for gifts to the school - conducting program evaluation - preparing travel budget- planning for teacher education courses and - assisting in planning internship for future teachers.

The activities which appear to be school and community related services included - maintaining working relationship with other teachers - maintaining working relationship with labor and manpower organizations - using community resources effectively - providing service to the community - identifying research problems - conducting open house - supporting civic, social and professional organization - giving presentations about the school program - preparing publications - providing consultant service and - assisting with non-instructional school activities.

Response by Different Sub-Groups of Teachers

Data analysis indicated a high degree of relationship among sub-groups of the total participating teachers relative to the importance they assigned to competencies.

The numerical values assigned to each response by each participant were used for calculating the F ratio and the Students' T Test for comparing response by various arrangements of sub-groups with response by the remainder of the total group for each competency in the information form. The calculated values indicated that the sub-groups; (1) construction trade teachers, (2) electrical and electronic teachers, (3) personal service type occupational teachers and (4) mechanics trade teachers assigned ratings different from the remainder of the participating teachers to some few competencies.

> Teachers in the construction trades assigned higher ratings than the remainder of the participating group to "Skillfully using miscellaneous teaching methods" and "Organize and use local craft advisory committees in a specialized vocational service area," while they attached lower ratings to "Maintaining tools and the laboratory in a highly usable condition."
>
> Teachers in the electrical and electronic occupation assigned higher ratings than the remainder of the participating group to; "Skillfully use laboratory demonstration teaching method," "Develop criteria standards (consistant with school policy) for scoring progress and reporting of student achievements," "Pre-assess a student's competency level, for prescribing instruction, using a variety of appropriate proficiency tests," "Maintain tools and lab equipment in a highly usable condition," "Know Florida Program and Facility Standards" and "Relate the history and development of vocational education to local, state and national social and economic growth." There were no items assigned lower ratings than the remainder of the participating group by the electrical and electronic teachers.
>
> Teachers in the personal service type occupations assigned higher ratings to one competency while they assigned lower ratings to six competencies as compared to ratings assigned to competencies by the remainder of the participating group. The higher ratings were assigned to "Demonstrate

behavioral patterns and ethical procedures appropriate for a professional vocational educator" while lower ratings were assigned to "Prepare a student accident report using appropriate report forms," "Establish a system for repairing and servicing classroom and laboratory tools and equipment," "Compile and use appropriate occupational information and data for counseling students," "Motivate students to develop necessary skills and knowledge to succeed in a payroll job," "Locate and use community resources in instructional planning and facilities operation," and "Establish and maintain effective relationship with labor, management and other manpower organizations."

Teachers in the mechanics related trades assigned higher ratings than the remainder of the groups to "Use transparencies effectively" while they assigned lower ratings to the following competencies; "Perform teaching in a neat and workmanlike manner," "Identify and correct situations which hinder the achievement of instructional goals," "Use the information available in professional and technical journals for improved teaching," "Identify problem areas needing research study," "Plan special instructional strategies for the disadvantaged and handicapped student," "Plan the internship experience for future teachers," "Identify and provide for future influences which are likely to bring change to vocational education curriculum," and "Improvise organizational procedural arrangements which will encourage and develop democratic procedure in the attack on vocational education problems."

While all of the teachers assigned ratings to 164 competencies included in the information form, significantly different ratings were assigned to three competencies by construction trade teachers, eight competencies by the electrical and electronic teachers, seven competencies by the personal service type occupational teachers and nine competencies by the mechanics trade teachers. Generally, the construction trade teachers and the electrical and electronic teachers assigned higher ratings to items they designated different from the remainder of the participating teachers while the personal service type occupational teachers and the mechanics trades teachers assigned lower ratings to items they designated significantly different from the remainder of the participating teachers.

TABLE III

RELATIVE IMPORTANCE OF SELECTED TEACHER COMPETENCIES AS RATED BY TRADE AND INDUSTRIAL TEACHERS WITH MORE THAN THREE YEARS TEACHING EXPERIENCE
(N = 133)

PERCENT RESPONSE BY CATEGORY Competency Should Be Developed			
Before Teaching Begins	After Teaching Begins	SELECTED COMPETENCIES IDENTIFIED	RANK ORDER * OF IMPORTANCE
46.4	53.6	Maintain a safety and accident prevention program in compliance with safety laws and regulations.	1
58.8	41.2	Determine and provide appropriate safety apparel and devices for activities of a hazardous nature.	2
8.7	91.3	Assist students in developing positive attitudes toward efficient work habits and quality workmanship.	3
61.0	39.0	Maintain up-to-date expertise in ones vocational trade or occupational specialty area to include skills, knowledge and favorable work habits.	4
31.5	68.5	Display vigor, enthusiasm and interest in students and in teaching.	5
46.2	53.8	Maintain a positive attitude and high level of confidence toward self.	6
79.5	20.5	Plan a unit of instruction.	7
8.8	91.2	Motivate students to develop necessary skills and knowledge to succeed in a payroll job.	8
47.8	52.2	Conduct appropriate procedures for attending to medical problems and first aid needs of students.	9
11.5	88.5	Correct disciplinary problems, consistent with school policy, fairly and decisively.	10
26.5	73.5	Perform teaching in a neat and workmanlike manner.	11
33.0	67.0	Exhibit a positive attitude toward the school, staff and objectives.	12
41.9	58.1	Demonstrate behavioral patterns and ethical procedures appropriate for a professional vocational educator.	13

(Continued on next page)

TABLE III (Continued)

RELATIVE IMPORTANCE OF SELECTED TEACHER COMPETENCIES AS RATED BY TRADE AND INDUSTRIAL TEACHERS WITH MORE THAN THREE YEARS TEACHING EXPERIENCE
(N = 133)

PERCENT RESPONSE BY CATEGORY Competency Should Be Developed			
Before Teaching Begins	After Teaching Begins	SELECTED COMPETENCIES IDENTIFIED	RANK ORDER * OF IMPORTANCE
33.3	66.7	Exhibit a positive attitude toward recommended machine and tool use and care.	14
44.9	55.1	Exhibit a positive attitude toward work and the contribution of manual labor to our society.	15
31.2	68.8	Skillfully use laboratory demonstration teaching methods.	16
76.5	23.5	Develop a lesson plan.	17
13.3	86.7	Communicate with students as individuals.	18
25.9	74.1	Conduct teaching in an organized orderly procedure.	19
59.3	40.7	Interpret local, state and national safety and health codes regarding use and care of vocational education facilities.	20
10.8	89.2	Include new and changing technological advances in laboratory and classroom instruction.	21
16.8	83.2	Maintain clean and orderly working surroundings.	22
24.3	75.7	Maintain tools and lab equipment in a highly usable condition.	23
33.9	66.1	Construct and use performance exams.	24
53.9	46.1	Evaluate and select textbooks and reference materials.	25
60.7	39.3	Know and conform to state laws relative to education.	26
8.0	92.0	Assist students to develop study skills to produce favorable results.	27
33.9	66.1	Apply appropriate principles of learning to the teaching of trade and industrial subjects.	28

(Continued on next page)

TABLE III (Continued)

RELATIVE IMPORTANCE OF SELECTED TEACHER COMPETENCIES AS RATED BY TRADE AND INDUSTRIAL TEACHERS WITH MORE THAN THREE YEARS TEACHING EXPERIENCE
(N = 133)

PERCENT RESPONSE BY CATEGORY Competency Should Be Developed			
Before Teaching Begins	After Teaching Begins	SELECTED COMPETENCIES IDENTIFIED	RANK ORDER * OF IMPORTANCE
54.0	46.0	Establish criteria for evaluation of student performance in a trade and industrial offering.	29
6.2	93.8	Assist students in developing positive attitudes toward the value and importance of public acceptance and support of vocational education programs.	30
35.1	64.9	Use effective communications in behaviorally, orally and written form.	31
7.1	92.9	Assist the student to develop values, attitudes and beliefs which will enhance leadership performance and potential.	32
41.7	58.3	Organize and maintain the vocational laboratory.	33
13.5	86.5	Promote an attendance program that will provide positive pupil, parent and community attitudes toward regular school attendance.	34
35.8	64.2	Skillfully use the classroom lecture teaching method.	35
6.0	94.0	Assist student learners in preparing for job interviews.	36
58.6	41.4	Construct a comprehensive course of study to include the course description, objectives, instructional content, student assignments, teacher lectures and demonstrations, reference materials and textbooks and comprehensive examination.	37
42.1	57.9	Manage equipment and supplies in the vocational laboratory.	38
21.6	78.4	Skillfully use supervised classroom or laboratory assigned exercise teaching methods.	39
22.3	77.7	Skillfully use student problem solving teaching methods.	40
25.9	74.1	Select, obtain and design instructional material for individualized learning activities in trade and industrial areas.	41

(Continued on next page)

TABLE III (Continued)

RELATIVE IMPORTANCE OF SELECTED TEACHER COMPETENCIES AS RATED BY TRADE AND INDUSTRIAL TEACHERS WITH MORE THAN THREE YEARS TEACHING EXPERIENCE
(N = 133)

PERCENT RESPONSE BY CATEGORY Competency Should Be Developed			
Before Teaching Begins	After Teaching Begins	SELECTED COMPETENCIES IDENTIFIED	RANK ORDER * OF IMPORTANCE
46.4	53.6	Make efficient use of time and materials.	42
58.8	41.2	Organize and use local craft advisory committees in a specialized vocational service area.	43
47.8	52.2	Promote, organize, and conduct appropriate classroom and laboratory housekeeping practices.	44
25.2	74.8	Assist students in applying for jobs or further education.	45
59.3	40.7	Recognize and provide for individual differences in students.	46
60.7	39.3	Develop a procedure to use live lab work (e.g., automobile repair) provided by community citizens for most effective learning experiences for students.	47
54.4	45.6	Demonstrate professional dress and physical appearance appropriate of a professional vocational educator.	48
41.7	58.3	Write performance objectives for vocational education offerings which are meaningful, measurable and can be read and understood by the student.	49
42.0	57.9	Evaluate and select instructional aids.	50
15.9	84.1	Demonstrate appropriate working relationships with other teachers and the school staff.	51
36.2	63.8	Demonstrate socially acceptable standards of behavior both on and off the vocational school premises.	52
21.6	78.4	Use graphic materials, educational displays and real objects for instructional aids.	53
6.1	93.8	Inform students of current employment opportunities.	54

(Continued on next page)

TABLE III (Continued)

RELATIVE IMPORTANCE OF SELECTED TEACHER COMPETENCIES AS RATED BY TRADE AND INDUSTRIAL TEACHERS WITH MORE THAN THREE YEARS TEACHING EXPERIENCE
(N = 133)

PERCENT RESPONSE BY CATEGORY Competency Should Be Developed			
Before Teaching Begins	After Teaching Begins	SELECTED COMPETENCIES IDENTIFIED	RANK ORDER * OF IMPORTANCE
5.4	94.6	Aid students in developing educational and career goals.	55
11.9	88.1	Evaluate co-op students' on-the-job development.	56
20.3	79.6	Skillfully use supervised individual lab projects and problems.	57
77.2	22.8	Analyze an occupation.	58
25.2	74.8	Prepare a student accident report using appropriate report forms.	59
15.6	84.4	Assist the school in creating an atmosphere in which democratic leadership can grow and flourish.	60
23.9	76.1	Skillfully use supervised classroom assignments teaching methods.	61
39.4	60.5	Evaluate facilities and equipment needs for a specialized vocational area.	62
38.7	61.3	Express a personal philosophy of vocational education to include the basic principles of vocational education and why it should be offered in public schools.	63
20.4	79.6	Know where and when teacher education courses are offered.	64
39.6	60.4	Assist in establishing admission criteria for students into vocational programs.	65
26.3	73.7	Skillfully use supervised group lab projects and problems teaching methods.	66
23.4	76.6	Use the information available in professional and technical journals for improved teaching.	67

(Continued on next page)

TABLE III (Continued)

RELATIVE IMPORTANCE OF SELECTED TEACHER COMPETENCIES AS RATED BY TRADE AND INDUSTRIAL TEACHERS WITH MORE THAN THREE YEARS TEACHING EXPERIENCE
(N = 133)

PERCENT RESPONSE BY CATEGORY Competency Should Be Developed			
Before Teaching Begins	After Teaching Begins	SELECTED COMPETENCIES IDENTIFIED	RANK ORDER * OF IMPORTANCE
43.2	56.7	Identify and analyze provisions of local, state and federal laws pertaining to teacher authority and liability.	68
22.2	77.8	Skillfully use the individualized programmed instruction teaching method.	69
30.6	69.4	Maintain an inventory of classroom and laboratory supplies, tools and equipment.	70
29.4	70.6	Prepare purchase orders for instructional materials, consumable supplies and capital outlay equipment.	71
12.7	87.3	Identify and correct situations which hinder the achievement of instructional goals.	72
37.4	62.6	Prepare materials, equipment and facilities budget for a vocational instructional area or unit.	73
21.1	78.8	Work with colleges and universities to obtain needed professional, technical and general education services.	74
20.4	79.6	Assemble pertinent student data for necessary record keeping.	75
11.4	88.6	Inform students of training and educational opportunities available to them after they complete the vocational course.	76
21.9	78.1	Promote unity and balance between vocational and general education.	77
19.1	80.9	Assess competency capability of personnel at the co-op training stations.	78
14.3	85.7	Maintain favorable relations with staff in other schools.	79
21.6	78.4	Skillfully use the question and answer teaching method.	80

(Continued on next page)

TABLE III (Continued)

RELATIVE IMPORTANCE OF SELECTED TEACHER COMPETENCIES AS RATED BY TRADE AND INDUSTRIAL TEACHERS WITH MORE THAN THREE YEARS TEACHING EXPERIENCE
(N = 133)

PERCENT RESPONSE BY CATEGORY Competency Should Be Developed			
Before Teaching Begins	After Teaching Begins	SELECTED COMPETENCIES IDENTIFIED	RANK ORDER * OF IMPORTANCE
31.6	68.4	Sequence student learning assignments for individualized instruction.	81
8.0	92.0	Ascertain the reason students leave or discontinue the vocational education program.	82
41.7	58.3	Demonstrate a knowledge of curriculum development procedures for vocational programs.	83
12.8	87.2	Establish and maintain effective relationships with labor, management and other manpower organizations.	84
15.9	84.1	Assist in the orientation of teachers who are new to the school system.	85
37.8	62.2	Assist vocational administrators, engineers and construction contractors in planning appropriate vocational education facilities.	86
32.0	68.0	Plan special instructional strategies for the disadvantaged and handicapped students.	87
38.3	61.7	Develop criteria standards (consistent with school policy) for scoring progress and reporting of student achievements.	88
27.9	72.1	Assemble and maintain professional resource material for personal use.	89
27.9	72.1	Develop a long range teaching plan.	90
54.4	45.6	Know Florida program and facility standards.	91
21.5	78.5	Develop co-op training agreements involving appropriate student-learners, employing agencies, parents, and vocational school officials.	92
36.1	63.9	Identify and select appropriate library resource materials.	93

(Continued on next page)

TABLE III (Continued)

RELATIVE IMPORTANCE OF SELECTED TEACHER COMPETENCIES AS RATED BY TRADE AND INDUSTRIAL TEACHERS WITH MORE THAN THREE YEARS TEACHING EXPERIENCE
(N = 133)

PERCENT RESPONSE BY CATEGORY Competency Should Be Developed			
Before Teaching Begins	After Teaching Begins	SELECTED COMPETENCIES IDENTIFIED	RANK ORDER * OF IMPORTANCE
18.3	81.7	Assess adequacy of the prospective co-op training station's facilities and equipment.	94
20.0	80.0	Compile and use appropriate occupational information and data for counseling students.	95
25.9	74.1	Interpret and uphold legal provisions and regulations governing the employment of student-learners in co-op programs.	96
11.9	88.1	Accept gifts or donations of supplies and equipment for the program in accordance with appropriate administrative procedures and school policy.	97
16.7	83.3	Locate and use community resources in instructional planning and facilities operation.	98
5.4	94.6	Assist students with the solution to personal and social problems.	99
32.7	67.3	Skillfully develop and use oral exams.	100
25.0	75.0	Use Miscellaneous teaching methods.	101
13.0	87.0	Provide service and maintain liaison with members of the community.	102
32.7	67.3	Prepare reports for instruction.	103
15.5	84.5	Assist the school administration in maintaining proper business records and accounts for a specialized vocational trade or technical program.	104
4.5	95.5	Aid student-learners in procuring work permits from school districts.	105
15.2	84.8	Demonstrate a knowledge of the latest concepts of career education and its relation to vocational education.	106

(Continued on next page)

TABLE III (Continued)

RELATIVE IMPORTANCE OF SELECTED TEACHER COMPETENCIES AS RATED BY TRADE AND INDUSTRIAL TEACHERS WITH MORE THAN THREE YEARS TEACHING EXPERIENCE
(N = 133)

PERCENT RESPONSE BY CATEGORY Competency Should Be Developed			
Before Teaching Begins	After Teaching Begins	SELECTED COMPETENCIES IDENTIFIED	RANK ORDER* OF IMPORTANCE
17.4	82.6	Actively pursue an appropriate long-range professional development plan.	107
8.1	91.9	Allow students to participate in the evaluation of instruction.	108
14.3	85.7	Utilize the latest findings of research about teaching.	109
9.2	90.8	Assist the school staff effort to encourage and stimulate the in-service professional preparation and growth of fellow teachers.	110
17.9	82.1	Select and secure co-op training stations.	111
22.3	77.7	Use transparencies effectively.	112
9.8	90.2	Identify problem areas needing research study.	113
11.6	88.4	Organize and maintain a job placement program for students.	114
30.7	69.3	Establish a system (consistent with school policy) for repairing and servicing classroom/laboratory tools and equipment.	115
22.8	77.2	Skillfully use large group or small group discussion teaching methods.	116
34.9	65.1	Skillfully develop and use picture exams.	117
5.4	94.6	Assist the student to effectively work with people, in various groupings, organizations and agencies.	118
13.4	86.6	Inform students, parents and school officials how vocational education objectives are derived, stated and used.	119
8.0	92.0	Conduct follow-up studies of former vocational students.	120

(Continued on next page)

TABLE III (Continued)

RELATIVE IMPORTANCE OF SELECTED TEACHER COMPETENCIES AS RATED BY TRADE AND INDUSTRIAL TEACHERS WITH MORE THAN THREE YEARS TEACHING EXPERIENCE
(N = 133)

PERCENT RESPONSE BY CATEGORY Competency Should Be Developed			
Before Teaching Begins	After Teaching Begins	SELECTED COMPETENCIES IDENTIFIED	RANK ORDER * OF IMPORTANCE
27.3	72.7	Pre-assess a student's competency level, for prescribing instruction, using a variety of appropriate proficiency tests.	121
26.6	73.4	Analyze test items for discrimination, validity and reliability coefficients.	122
20.6	79.4	Skillfully use the student recitation teaching method.	123
28.0	72.0	Relate the vocational educational curricula to the total instruction in a comprehensive high school curricula.	124
11.4	88.6	Plan, prepare and conduct an open house to promote a vocational education program.	125
15.7	84.3	Support appropriate professional, social and civic group organizations or associations.	126
24.3	75.7	Identify and utilize services provided by national, state and local professional organizations.	127
18.9	81.1	Identify and provide for future influences which are likely to bring change to vocational education curriculum.	128
26.4	73.6	Establish and maintain a plan (consistent with school policy) for use of given vocational laboratory and equipment by other vocational school personnel and outside groups.	129
19.3	80.7	Prepare promotional materials to explain vocational programs to the lay public.	130
16.0	84.0	Assist the school administrator in determining student/customer cost billings for equipment usage and materials consumption.	131

(Continued on next page)

TABLE III (Continued)

RELATIVE IMPORTANCE OF SELECTED TEACHER COMPETENCIES AS RATED BY TRADE AND INDUSTRIAL TEACHERS WITH MORE THAN THREE YEARS TEACHING EXPERIENCE
(N = 133)

PERCENT RESPONSE BY CATEGORY Competency Should Be Developed			
Before Teaching Begins	After Teaching Begins	SELECTED COMPETENCIES IDENTIFIED	RANK ORDER* OF IMPORTANCE
16.5	83.5	Give presentations to community groups to promote a vocational education program.	132
31.8	68.2	Skillfully develop and use multiple choice exam items.	133
23.9	76.1	Plan the internship experience for future teachers.	134
22.2	77.8	Maintain an up-to-date professional personal file.	135
25.9	74.1	Reproduce instructional materials using appropriate available supplies and audio-visual equipment.	136
22.3	77.7	Identify groups of students to be served and the types of organized vocational programs offered for preparatory and extension classes.	137
6.4	93.6	Provide consultant services to local business and industry.	138
15.0	85.0	Conduct community and labor market surveys.	139
13.5	86.5	Improvise organizational and procedural arrangements which will encourage and develop democratic procedure in the attack on vocational education problems.	140
32.1	67.9	Skillfully develop and use matching exam items.	141
10.6	89.4	Skillfully use free elective laboratory projects teaching methods.	142
17.3	82.7	Develop an annual plan for school-community relations.	143
10.0	90.0	Guide, plan, develop and participate in the Vocational Industrial Clubs of America (VICA) activities.	144
17.0	83.0	Relate educational foundations (sociological, psychological, philosophical and historical) to vocational education situations.	145

(Continued on next page)

TABLE III (Continued)

RELATIVE IMPORTANCE OF SELECTED TEACHER COMPETENCIES AS RATED BY TRADE AND INDUSTRIAL TEACHERS WITH MORE THAN THREE YEARS TEACHING EXPERIENCE
(N = 133)

PERCENT RESPONSE BY CATEGORY Competency Should Be Developed			
Before Teaching Begins	After Teaching Begins	SELECTED COMPETENCIES IDENTIFIED	RANK ORDER * OF IMPORTANCE
7.3	92.7	Conduct a leadership training session for the student officers of VICA.	146
11.1	88.9	Promote public awareness of a community survey findings.	147
14.8	85.2	Interpret local, state and national results on issues affecting support for vocational education.	148
31.0	69.0	Discuss the relationship and differences between the aims, goals and objectives for secondary education, industrial arts education, vocational education and career education.	149
27.8	72.2	Skillfully develop and use miscellaneous exam items.	150
29.2	70.8	Interpret and apply the Florida State Plan for the administration of vocational education programs within the vocational school and administation.	151
20.0	80.0	Obtain data and complete reports for local, state, and federal government agencies regarding the operation and evaluation of vocational programs.	152
17.0	83.0	Utilize students' cumulative recorded data for planning educational experiences.	153
32.1	67.9	Skillfully develop and use true-false exam items.	154
21.0	79.0	Prepare travel and expense budgets.	155
30.6	69.4	Identify federal, state and local agencies responsible for administering vocational education.	156
4.5	95.5	Maintain a file of publications available from VICA.	157
29.8	70.2	Skillfully develop and use subjective essay exam items.	158

(Continued on next page)

TABLE III (Continued)

RELATIVE IMPORTANCE OF SELECTED TEACHER COMPETENCIES AS RATED BY TRADE AND INDUSTRIAL TEACHERS WITH MORE THAN THREE YEARS TEACHING EXPERIENCE
(N = 133)

PERCENT RESPONSE BY CATEGORY Competency Should Be Developed			
Before Teaching Begins	After Teaching Begins	SELECTED COMPETENCIES IDENTIFIED	RANK ORDER * OF IMPORTANCE
23.8	76.2	Relate the history and development of vocational education to local, state and national social and economic growth.	159
26.7	73.3	Identify and interpret the major acts of federal legislation which laid the foundation for today's vocational education programs.	160
4.7	95.3	Prepare articles for publication in professional and technical journals.	161
16.2	83.8	Skillfully use home work assigned exercise teaching methods.	162
24.8	75.2	Relate the history, and trace the development of the labor union movements and its influence on vocational education.	163
7.6	92.4	Assist with non-instructional school activities (1. School playground supervisor, 2. Bus duty, 3. Chaperoning, etc.)	164

* Rank order of importance within an array of 164 competencies.

SECTION III

OPPORTUNITY FOR TEACHERS TO DEVELOP COMPETENCIES

One purpose for conducting the study was to ascertain whether the teachers felt that they had the opportunity and instruction available to develop or acquire the 164 competencies needed to teach effectively. The purpose of this section is to report the response of trade and industrial teachers relative to the availability of instruction to enable them to develop or acquire the competencies.

Seventy-four (74) teachers responded to the check list type instrument designed to collect information relative to instruction available while they were fulfilling Florida Teaching Certification Requirements. The tabulated response by item (see Table IV, page 32) provided some degree of measure for identifying available instruction to assist teachers in developing or learning the competencies.

The data indicate that 50 percent of the teachers had instruction available to develop 94 percent of the competencies. Instruction which was identified as available to the highest percent of teachers to assist them in developing the competencies included:

> principles, philosophy and curriculum development - course construction - lesson planning and instructional unit planning - selecting and using teaching aids - using content in professional and technical journals - using a variety of teaching methods and techniques - constructing multiple choice and performance items for measuring students achievements - displaying vigor, enthusiasm and interest in students and teaching and - encouraging students to develop a positive attitude toward the school, the program and learning.

Instruction which was identified as available to the lowest percent of teachers to assist in developing competencies included:

establishing and conducting cooperative work study programs - maintaining information on Vocational Industrial Clubs of America - planning internship for future teachers - community service such as providing consultant assistance to local business and industry - publishing articles - promoting public awareness of community surveys - preparing travel budgets - aiding students in procuring work permits and assisting in noninstructional school activities.

Tabulated data relative to opportunity and instruction to teachers for developing needed competencies is included in the following pages.

TABLE IV

AVAILABILITY OF INSTRUCTION TO PROVIDE TEACHERS OPPORTUNITIES TO DEVELOP NEEDED COMPETENCIES

AVAILABILITY OF INSTRUCTION *Response in Percent (N = 74)			NEEDED COMPETENCIES (In order of importance, as rated by 133 successful trade and industrial teachers)
Yes	No	No Response	
74.3	25.6	0.0	1. Maintain a safety and accident prevention program in compliance with safety laws and regulations.
77.0	14.8	8.1	2. Determine and provide appropriate safety apparel and devices for activities of a hazardous nature.
81.0	9.5	9.5	3. Assist students in developing positive attitudes toward efficient work habits and quality workmanship.
67.5	21.6	10.8	4. Maintain up-to-date expertise in ones vocational trade or occupational specialty area to include skills, knowledge and favorable work habits.
83.7	8.1	8.1	5. Display vigor, enthusiasm and interest in students and in teaching.
81.0	12.1	6.7	6. Maintain a positive attitude and high level of confidence toward self.
86.5	5.4	8.1	7. Plan a unit of instruction.
73.0	19.0	8.1	8. Motivate students to develop necessary skills and knowledge to succeed in a payroll job.
51.3	40.5	8.1	9. Conduct appropriate procedures for attending to medical problems and first aid needs of students.
64.9	27.0	8.1	10. Correct disciplinary problems, consistent with school policy, fairly and decisively.
82.4	9.5	8.1	11. Perform teaching in a neat and workmanlike manner.
75.7	13.5	10.8	12. Exhibit a positive attitude toward the school, staff and objectives.
83.8	9.5	6.7	13. Demonstrate behavioral patterns and ethical procedures appropriate for a professional vocational educator.
74.3	25.7	0.0	14. Exhibit a positive attitude toward recommended machine and tool use and care.

* As indicated by 74 successful Florida Trade & Industrial Teachers.

(Continued on next page)

TABLE IV (Continued)

AVAILABILITY OF INSTRUCTION TO PROVIDE TEACHERS OPPORTUNITIES TO DEVELOP NEEDED COMPETENCIES

AVAILABILITY OF INSTRUCTION *Response in Percent (N = 74)			NEEDED COMPETENCIES (In order of importance, as rated by 133 successful trade and industrial teachers)
Yes	No	No Response	
77.0	14.9	8.1	15. Exhibit a positive attitude toward work and the contribution of manual labor to our society.
73.0	19.0	8.1	16. Skillfully use laboratory demonstration teaching methods.
89.2	2.7	8.1	17. Develop a lesson plan.
78.3	13.5	8.1	18. Communicate with students as individuals.
87.8	4.0	8.1	19. Conduct teaching in an organized orderly procedure.
63.5	28.3	8.1	20. Interpret local, state and national safety and health codes regarding use and care of vocational education facilities.
62.1	28.4	9.5	21. Include new and changing technological advances in laboratory and classroom instruction.
78.3	13.5	8.1	22. Maintain clean and orderly working surroundings.
73.0	18.9	8.1	23. Maintain tools and lab equipment in a highly useable condition.
74.3	25.7	0.0	24. Construct and use performance exams.
63.5	24.3	12.1	25. Evaluate and select textbooks and reference materials.
67.6	21.6	10.8	26. Know and conform to state laws relative to education.
83.7	8.1	8.1	27. Assist students to develop study skills to produce favorable results.
81.0	8.1	10.8	28. Apply appropriate principles of learning to the teaching of trade and industrial subjects.
74.3	13.5	12.1	29. Establish criteria for evaluation of student performance in a trade and industrial offering.

* As indicated by 74 successful Florida Trade & Industrial Teachers.

(Continued on next page)

TABLE IV (Continued)

AVAILABILITY OF INSTRUCTION TO PROVIDE TEACHERS OPPORTUNITIES TO DEVELOP NEEDED COMPETENCIES

AVAILABILITY OF INSTRUCTION *Response in Percent (N = 74)			NEEDED COMPETENCIES (In order of importance, as rated by 133 successful trade and industrial teachers)	
Yes	No	No Response		
71.6	18.9	9.5	30.	Assist students in developing positive attitudes toward the value and importance of public acceptance and support of vocational education programs.
79.7	12.1	8.1	31.	Use effective communications in behaviorally, orally and written form.
77.0	13.5	9.5	32.	Assist the student to develop values, attitudes and beliefs which will enhance leadership performance and potential.
74.3	17.6	8.1	33.	Organize and maintain the vocational laboratory.
58.1	32.4	9.5	34.	Promote an attendance program that will provide positive pupil, parent and community attitudes toward regular school attendance.
82.4	8.1	9.5	35.	Skillfully use the classroom lecture teaching method.
59.5	29.7	10.8	36.	Assist student learners in preparing for job interviews.
85.1	5.4	9.5	37.	Construct a comprehensive course of study to include the course description, objectives, instructional content, student assignments, teacher lectures and demonstrations, reference materials and textbooks and comprehensive examination.
70.2	20.3	9.5	38.	Manage equipment and supplies in the vocational laboratory.
70.2	14.9	14.9	39.	Skillfully use supervised classroom or laboratory assigned exercise teaching methods.
74.3	17.7	8.1	40.	Skillfully use student problem solving teaching methods.
74.3	14.9	10.8	41.	Select, obtain and design instructional material for individualized learning activities in trade and industrial areas.
82.4	9.5	8.1	42.	Make efficient use of time and materials.
74.3	16.2	9.5	43.	Organize and use local craft advisory committees in a specialized vocational service area.

*As indicated by 74 successful Florida Trade & Industrial Teachers.

(Continued on next page)

TABLE IV (Continued)

AVAILABILITY OF INSTRUCTION TO PROVIDE TEACHERS OPPORTUNITIES TO DEVELOP NEEDED COMPETENCIES

AVAILABILITY OF INSTRUCTION *Response in Percent (N = 74)			NEEDED COMPETENCIES (In order of importance, as rated by 133 successful trade and industrial teachers)
Yes	No	No Response	
74.3	17.5	8.1	44. Promote, organize and conduct appropriate classroom and laboratory housekeeping practices.
63.5	27.0	9.5	45. Assist students in applying for jobs or further education.
71.6	18.9	9.5	46. Recognize and provide for individual differences in students.
71.6	20.3	8.1	47. Develop a procedure to use live lab work (e.g., automobile repair) provided by community citizens for most effective learning experiences for students.
71.6	20.3	8.1	48. Demonstrate professional dress and physical appearance appropriate of a professional vocational educator.
82.4	12.1	5.4	49. Write performance objectives for vocational education offerings which are meaningful, measurable and can be read and understood by the student.
86.5	8.1	5.4	50. Evaluate and select instructional aids.
74.3	20.3	5.4	51. Demonstrate appropriate working relationships with other teachers and the school staff.
77.0	17.6	5.4	52. Demonstrate socially acceptable standards of behavior both on and off the vocational school premises.
86.5	8.1	5.4	53. Use graphic materials, educational displays, and real objects for instructional aids.
71.6	20.3	8.1	54. Inform students of current employment opportunities.
77.0	14.9	8.1	55. Aid students in developing educational and career goals.
50.0	41.9	8.1	56. Evaluate co-op students' on-the-job development.
74.3	21.6	4.0	57. Skillfully use supervised individual lab projects and problems.
69.6	27.0	5.4	58. Analyze an occupation.

*As indicated by 74 successful Florida Trade & Industrial Teachers.

(Continued on next page)

TABLE IV (Continued)

AVAILABILITY OF INSTRUCTION TO PROVIDE TEACHERS OPPORTUNITIES TO DEVELOP NEEDED COMPETENCIES

AVAILABILITY OF INSTRUCTION *Response in Percent (N = 74)			NEEDED COMPETENCIES (In order of importance, as rated by 133 successful trade and industrial teachers)
Yes	No	No Response	
58.1	37.8	4.0	59. Prepare a student accident report using appropriate report forms.
64.9	29.7	5.4	60. Assist the school in creating an atmosphere in which democratic leadership can grow and flourish.
77.0	17.6	5.4	61. Skillfully use supervised classroom assignments teaching methods.
71.6	21.6	6.7	62. Evaluate facilities and equipment needs for a specialized vocational area.
86.5	6.7	6.7	63. Express a personal philosophy of vocational education to include the basic principles of vocational education and why it should be offered in public schools.
82.4	10.8	6.7	64. Know where and when teacher education courses are offered.
64.9	31.8	4.0	65. Assist in establishing admission criteria for students into vocational programs.
67.6	27.0	5.4	66. Skillfully use supervised group lab projects and problems teaching methods.
82.4	12.1	5.4	67. Use the information available in professional and technical journals for improved teaching.
70.3	24.3	5.4	68. Identify and analyze provisions of local, state and federal laws pertaining to teacher authority and liability.
71.6	23.0	5.4	69. Skillfully use the individualized programmed instruction teaching method.
74.3	19.0	6.7	70. Maintain an inventory of classroom and laboratory supplies, tools and equipment.
66.2	28.7	5.4	71. Prepare purchase orders for instructional materials, consumable supplies and capital outlay equipment.
73.0	21.6	5.4	72. Identify and correct situations which hinder the achievement of instructional goals.

*As indicated by 74 successful Florida Trade & Industrial Teachers.

(Continued on next page)

TABLE IV (Continued)

AVAILABILITY OF INSTRUCTION TO PROVIDE TEACHERS OPPORTUNITIES TO DEVELOP NEEDED COMPETENCIES

AVAILABILITY OF INSTRUCTION *Response in Percent (N = 74)			NEEDED COMPETENCIES (In order of importance, as rated by 133 successful trade and industrial teachers)
Yes	No	No Response	
66.2	28.4	5.4	73. Prepare materials, equipment and facilities budget for a vocational instructional area or unit.
66.2	25.7	8.1	74. Work with colleges and universities to obtain needed professional, technical and general education services.
74.3	20.2	5.4	75. Assemble pertinent student data for necessary record keeping.
69.0	24.3	6.7	76. Inform students of training and educational opportunities available to them after they complete the vocational course.
69.0	24.3	6.7	77. Promote unity and balance between vocational and general education.
44.6	51.3	4.0	78. Assess competency capability of personnel at the co-op training stations.
67.6	27.0	5.4	79. Maintain favorable relations with staff in other schools.
85.1	12.1	2.7	80. Skillfully use the questions and answers teaching methods.
70.3	21.6	8.1	81. Sequence student learning assignments for individualized instruction.
58.1	37.8	4.0	82. Ascertain the reason students leave or discontinue the vocational education program.
89.2	10.8	0.0	83. Demonstrate a knowledge of curriculum development procedures for vocational programs.
67.6	25.7	6.7	84. Establish and maintain effective relationships with labor, management and other manpower organizations.
59.5	37.8	2.7	85. Assist in the orientation of teachers who are new to the school system.
55.4	40.5	4.0	86. Assist vocational administrators, engineers and construction contractors in planning appropriate vocational education facilities.

*As indicated by 74 successful Florida Trade & Industrial Teachers.

(Continued on next page)

TABLE IV (Continued)

AVAILABILITY OF INSTRUCTION TO PROVIDE TEACHERS OPPORTUNITIES TO DEVELOP NEEDED COMPETENCIES

AVAILABILITY OF INSTRUCTION *Response in Percent (N = 74)			NEEDED COMPETENCIES (In order of importance, as rated by 133 successful trade and industrial teachers)
Yes	No	No Response	
50.0	45.9	4.0	87. Plan special instructional strategies for the disadvantaged and handicapped students.
77.0	18.9	4.0	88. Develop criteria standards (consistent with school policy) for scoring progress and reporting of student achievements.
82.4	14.9	2.7	89. Assemble and maintain professional resource material for personal use.
75.7	20.3	4.0	90. Develop a long range teaching plan.
64.9	31.0	4.0	91. Know Florida program and facility standards.
47.3	48.6	4.0	92. Develop co-op training agreements involving appropriate student-learners, employing agencies, parents, and vocational school officials.
74.3	24.3	1.3	93. Identify and select appropriate library resources materials.
43.2	50.0	6.7	94. Assess adequacy of the prospective co-op training station's facilities and equipment.
60.8	33.8	5.4	95. Compile and use appropriate occupational information and data for counseling students.
39.2	58.1	2.7	96. Interpret and uphold legal provisions and regulations governing the employment of student-learners in co-op programs.
59.5	36.5	4.0	97. Accept gifts or donations of supplies and equipment for the program in accordance with appropriate administrative procedures and school policy.
67.6	27.0	5.4	98. Locate and use community resources in instructional planning and facilities operation.
74.3	18.9	6.7	99. Assist students with the solution to personal and social problems.

*As indicated by 74 successful Florida Trade & Industrial Teachers.

(Continued on next page)

TABLE IV (Continued)

AVAILABILITY OF INSTRUCTION TO PROVIDE TEACHERS OPPORTUNITIES TO DEVELOP NEEDED COMPETENCIES

AVAILABILITY OF INSTRUCTION *Response in Percent (N = 74)			NEEDED COMPETENCIES (In order of importance, as rated by 133 successful trade and industrial teachers)
Yes	No	No Response	
71.6	21.6	6.7	100. Skillfully develop and use oral exams.
83.8	8.1	8.1	101. Use miscellaneous teaching methods.
75.7	17.6	6.7	102. Provide service and maintain liaison with members of the community.
74.3	20.3	5.4	103. Prepare reports for instruction.
58.1	33.8	8.1	104. Assist the school administration in maintaining proper business records and accounts for a specialized vocational trade or technical program.
44.6	51.4	4.0	105. Aid student-learners in procuring work permits from school districts.
71.6	24.3	4.0	106. Demonstrate a knowledge of the latest concepts of career education and its' relation to vocational education.
73.0	23.0	4.0	107. Actively pursue an appropriate long-range professional development plan.
58.1	35.1	6.7	108. Allow students to participate in the evaluation of instruction.
75.7	20.3	4.0	109. Utilize the latest findings of research about teaching.
70.3	25.7	4.0	110. Assist the school staff effort to encourage and stimulate the in-service professional preparation and growth of fellow teachers.
41.9	54.1	4.0	111. Select and secure co-op training stations.
70.3	25.7	4.0	112. Use transparencies effectively.
60.8	35.1	4.0	113. Identify problem areas needing research study.
45.9	43.2	10.8	114. Organize and maintain a job placement program for students.

* As indicated by 74 successful Florida Trade & Industrial Teachers.

(Continued on next page)

TABLE IV (Continued)

AVAILABILITY OF INSTRUCTION TO PROVIDE TEACHERS OPPORTUNITIES TO DEVELOP NEEDED COMPETENCIES

AVAILABILITY OF INSTRUCTION *Response in Percent (N = 74)			NEEDED COMPETENCIES (In order of importance, as rated by 133 successful trade and industrial teachers)
Yes	No	No Response	
63.5	32.4	4.0	115. Establish a system (consistent with school policy) for repairing and servicing classroom/laboratory tools and equipment.
85.1	10.8	4.0	116. Skillfully use large group or small group discussion teaching methods.
59.5	39.1	1.4	117. Skillfully develop and use picture exams.
73.0	23.0	4.0	118. Assist the student to effectively work with people, in various groupings, organizations and agencies.
67.5	28.4	4.0	119. Inform students, parents and school officials how vocational education objectives are derived, stated and used.
48.6	33.8	17.6	120. Conduct follow-up studies of former vocational students.
68.9	27.0	4.0	121. Pre-assess a student's competency level, for prescribing instruction, using a variety of appropriate proficiency tests.
75.7	20.3	4.0	122. Analyze test items for discrimination, validity and reliability coefficients.
62.2	33.8	4.0	123. Skillfully use the student recitation teaching method.
64.9	31.1	4.0	124. Relate the vocational education curricula to the total instruction in a comprehensive high school curricula.
62.2	33.8	4.0	125. Plan, prepare and conduct an open house to promote a vocational education program.
70.3	25.7	4.0	126. Support appropriate professional, social and civic group organizations or associations.
68.9	29.7	1.4	127. Identify and utilize services provided by national, state and local professional organizations.
60.8	33.8	5.4	128. Identify and provide for future influences which are likely to bring change to vocational education curriculum.

*As indicated by 74 successful Florida Trade & Industrial Teachers.

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TABLE IV (Continued)

AVAILABILITY OF INSTRUCTION TO PROVIDE TEACHERS OPPORTUNITIES TO DEVELOP NEEDED COMPETENCIES

AVAILABILITY OF INSTRUCTION *Response in Percent (N = 74)			NEEDED COMPETENCIES (In order of importance, as rated by 133 successful trade and industrial teachers)	
Yes	No	No Response		
56.8	31.2	4.0	129.	Establish and maintain a plan (consistent with school policy) for use of a given vocational laboratory and equipment by other vocational school personnel and outside groups.
60.8	35.1	4.0	130.	Prepare promotional materials to explain vocational programs to the lay public.
59.5	36.5	4.0	131.	Assist the school administrator in determining student/customer cost billings for equipment usage and materials consumption.
54.1	41.9	4.0	132.	Give presentations to community groups to promote a vocational education program.
87.8	8.1	4.0	133.	Skillfully develop and use multiple choice exam items.
28.4	67.6	4.0	134.	Plan the internship experience for future teachers.
58.1	37.8	4.0	135.	Maintain an up-to-date professional personal file.
82.4	13.5	4.0	136.	Reproduce instructional materials using appropriate available supplies and audiovisual equipment.
44.6	51.4	4.0	137.	Identify groups of students to be served and the types of organized vocational programs offered for preparatory and extension classes.
51.4	44.6	4.0	138.	Provide consultant services to local business and industry.
60.8	35.1	4.0	139.	Conduct community and labor market surveys.
62.2	33.8	4.0	140.	Improvise organizational and procedural arrangements which will encourage and develop democratic procedure in the attack on vocational education problems.
82.4	13.5	4.0	141.	Skillfully develop and use matching exam items.
64.9	31.1	4.0	142.	Skillfully use free elective laboratory projects teaching methods.

*As indicated by 74 successful Florida Trade & Industrial Teachers.

(Continued on next page)

TABLE IV (Continued)

AVAILABILITY OF INSTRUCTION TO PROVIDE TEACHERS OPPORTUNITIES TO DEVELOP NEEDED COMPETENCIES

AVAILABILITY OF INSTRUCTION *Response in Percent (N = 74)			NEEDED COMPETENCIES (In order of importance, as rated by 133 successful trade and industrial teachers)
Yes	No	No Response	
51.4	44.6	4.0	143. Develop an annual plan for school-community relations.
54.1	41.9	4.0	144. Guide, plan, develop and participate in the Vocational Industrial Clubs of America (VICA) activities.
55.4	40.5	4.0	145. Relate educational foundations (sociological, psychological, philosophical and historical) to vocational education situations.
63.5	31.1	5.4	146. Conduct a leadership training session for the student officers of VICA.
40.5	55.4	4.0	147. Promote public awareness of a community survey findings.
64.9	28.4	6.7	148. Interpret local, state and national results on issues affecting support for vocational education.
57.6	28.4	4.0	149. Discuss the relationship and differences between the aims, goals and objectives for secondary education, industrial arts education, vocational education and career education.
81.1	14.9	4.0	150. Skillfully develop and use miscellaneous exam items.
64.9	31.1	4.0	151. Interpret and apply the Florida State Plan for the administration of vocational education programs within the vocational school and administration.
64.9	31.1	4.0	152. Obtain data and complete reports for local, state, and federal government agencies regarding the operation and evaluation of vocational programs.
60.8	35.1	4.0	153. Utilize students' cumulative recorded data for planning educational experiences.
77.0	18.9	4.0	154. Skillfully develop and use true-false exam items.
39.2	51.3	9.5	155. Prepare travel and expense budgets.
70.3	25.7	4.0	156. Identify federal, state and local agencies responsible for administering vocational education.

*As indicated by 74 successful Florida Trade & Industrial Teachers.

(Continued on next page)

TABLE IV (Continued)

AVAILABILITY OF INSTRUCTION TO PROVIDE TEACHERS OPPORTUNITIES TO DEVELOP NEEDED COMPETENCIES

AVAILABILITY OF INSTRUCTION *Response in Percent (N = 74)			NEEDED COMPETENCIES (In order of importance, as rated by 133 successful trade and industrial teachers)
Yes	No	No Response	
41.9	54.1	4.0	157. Maintain a file of publications available from VICA.
64.9	17.6	17.6	158. Skillfully develop and use subjective essay exam items.
75.7	18.9	5.4	159. Relate the history and development of vocational education to local, state and national social and economic growth.
70.3	10.8	18.9	160. Identify and interpret the major acts of federal legislation which laid the foundation for today's vocational education programs.
36.5	56.8	6.7	161. Prepare articles for publication in professional and technical journals.
59.5	35.1	5.4	162. Skillfully use home work assigned exercise teaching methods.
64.9	29.7	5.4	163. Relate the history, and trace the development of the labor union movements and its influence on vocational education.
43.2	50.0	6.7	164. Assist with non-instructional school activities (1. school playground supervisor, 2. bus duty, 3. chaperoning, etc.)

*As indicated by 74 successful Florida Trade & Industrial Teachers.

SECTION IV

CHARACTERISTICS OF SUCCESSFUL TRADE AND INDUSTRIAL TEACHERS

One purpose of the study was to ascertain descriptive data relative to the basic characteristics of successful trade and industrial teachers employed in local school programs under the administrative heading of trade and industrial education. The purpose of this section is to present the descriptive data relative to basic characteristics of the teachers.

The data provided for the study indicated the following major observations relative to teachers in trade and industrial programs:

> while 90 percent are male, 10 percent are female - their average age is 49.2 years and their teaching experience averages 6.9 years - they work in large and small schools located in large and small communities - while 46 percent have completed two years of college or less, 31 percent have completed a four year college degree or more - approximately 93 percent are certified with a Florida Standard Rank III Teaching Certificate or higher - their average salary is $11,484 per year - while 15 percent are members of the American Vocational Association and 12 percent are members of the Florida Vocational Association, 71 percent did not respond as members of any professional teacher's organization.

The tabulated data relative to successful trade and industrial teachers is included in the following parts of this section.

AGE OF RESPONDENTS

Age In Years	Response In Precent
25-29	1.6%
30-34	7.6%
35-39	6.1%
40-44	19.7%
45-49	15.9%
50-54	22.0%
55-59	16.7%
60 or older	10.6%
No response	0.75%

Average (MEAN) = 49.21 Years

REPRESENTATION BY SEX

Male = 90.2% Female = 9.8%

HIGHEST LEVEL OF FORMAL SCHOOLING COMPLETED

Types of Schooling Completed	Response In Percent
High school graduation or G.E.D. equivalency	14.3%
One to two years of post secondary non-college credit type programs	9.0%
One to two years of college	22.6%
Two year associate degree or equivalent	9.0%
Three to four years of college	7.5%
Four year bachelor's degree	9.7%
Four year degree plus some graduate work	9.7%
Master's degree	0.8%
Master's degree plus additional work	11.2%
No response	6.0%

TYPES OF FLORIDA TEACHER CERTIFICATION

Certification Type	Response In Percent
Rank I	5.3%
Rank II	75.2%
Rank III	18.0%
Temporary	0.0%
Other	1.5%

REPRESENTATION BY OCCUPATION

Occupation	Response In Percent
Air conditioning and heating	3.8%
Appliance repair	1.5%
Auto mechanics	22.7%
Aviation	0.75%
Business machines maintenance	0.75%
Commercial advertising	0.75%
Commercial food services	3.0%
Cosmetology	9.8%
Construction trades	6.8%
Drafting	7.6%
Dry cleaning and laundry	0.75%
Electricity	7.6%
Electronics	9.8%
Engineering	1.5%
Graphic arts	3.8%
Law enforcement	3.0%
Machine shop	3.0%
Management	1.5%
Marine engines	5.3%
Professional driver	2.3%
Quality control	0.75%
Radio and T.V.	3.0%
Sheet metal	0.75%
Upholstery	1.5%
Vocational administrator	3.0%
Welding	4.5%

*NOTE: Total response may be greater than 100% because some of the respondents indicated that they had more than one occupation.

TEACHING EXPERIENCE

Years	Response In Percent
1-5	50.4%
6-10	36.8%
11-15	8.3%
16-20	3.0%
21 or more	1.5%

Average (MEAN) = 6.9 Years

SALARY OF TEACHERS

Salary per year in dollars	Response In Percent
8,000 - 9,999	18.0%
10,000 - 11,999	30.0%
12,000 - 13,999	30.1%
14,000 - 15,999	10.5%
16,000 - 17,999	3.0%
18,000 - 19,999	0.0%
20,000 - 21,999	0.7%
No response	6.8%

Average (MEAN) = 11,483.87 Dollars/Year

TEACHING STATUS

Full time 98.0%	Part time 1.0%	No response 1.0%

TYPES OF COMMUNITY WHERE THEY TEACH

Rural 23.3%	Suburban 33.8%	Urban 42.9%

POPULATION OF COMMUNITY WHERE THEY TEACH

Population	Response In Percent
0- 50,000	53.0%
50,001-100,000	21.2%
100,001-150,000	5.3%
150,001-250,000	7.1%
250,001-350,000	3.5%
350,001-450,000	0.9%
450,0001 or more	8.8%

Average Size (MEAN) = 147,469

POPULATION OF SCHOOL WHERE THEY TEACH

Number of Students	Response In Percent
0-200	4.3%
201-400	6.0%
401-600	6.9%
601-800	6.0%
801-1000	13.0%
1001-1200	6.9%
1201-1400	5.2%
1401-1600	4.3%
1601-1800	5.2%
1801-2000	3.5%
2001-2200	5.2%
2201-2400	6.0%
2401-2600	6.0%
2601-2800	0.0%
2801-3000	1.8%
3001-3200	2.6%
3201-3400	0.0%
3401-3600	0.0%
3601-3800	0.9%
3801-4000	0.0%
4001-4200	5.2%
4201-4400	2.6%
4401-4600	0.9%
4601 or more	6.9%

Average (MEAN) = 2301

NUMBER OF SCHOOLS SERVED BY THE TEACHER'S VOCATIONAL PROGRAM

Number of Schools	Response In Percent
1	26.3%
2	4.5%
3	6.8%
4	12.0%
5	6.0%
6	7.5%
7	4.5%
8	4.5%
9	0.8%
10	6.0%
11	0.8%
15	0.8%
17	0.8%
18	0.8%
20	0.8%
No response	17.3%

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Professional Organization	Response In Percent
Florida Vocational Association	15.1%
American Vocational Association	12.8%
Local Association	10.3%
American Industrial Arts Association	0.8%
Others such as FEA and NEA	3.0%
No response	70.7%

SECTION V

THE EVALUATION INSTRUMENT FOR TRADE AND INDUSTRIAL TEACHERS

One purpose of the study was to construct an instrument for administrators to evaluate trade and industrial teachers' performance in an effort to upgrade the teaching and learning process in area vocational-technical programs. The purpose of this section is to report the instrument, its content and the developmental procedure used.

The intent of the proposed project included restructuring the information form, used to collect teachers' opinions relative to competencies needed for successful teaching, into an evaluation form which could be used for measuring the teachers' effectiveness. The procedure appeared to be desirable and logical to include all of the competencies identified by the teachers in the information form as measures in the evaluation form. However, if all of the competencies were included in the instrument the total length would have drastically discouraged its use. Further, many items included in the information form were of the cognitive knowledge type which would present severe difficulty for the supervisor trying to measure teacher performance by visual observation.

A review of several evaluation forms used to rate professional level workers in business, industry and government, including those of the U. S. Civil Service and the different branches of the military services, was conducted. A search of professional literature was also conducted in an effort to collect the latest content, techniques and procedures relative to rating scales and their use. The results of the search suggested that a scale used to rate trade and industrial teachers should include the following basic characteristics:

(1) be short, quick and easy to use by the rater.

(2) include categories of measures unique to the profession which could be measured by visual observation by the rater.

(3) include succinctly defined increments for each category of measure.

(4) encourage raters to be fair and objective.

(5) include an equal numerical score for each category of measure and allow for a total cumulative score for the instrument.

A draft of the instrument was constructed and sent to ten selected supervisors of trade and industrial teachers in Florida Vocational-Technical Centers and Junior/Community Colleges for critique and suggestions for changes and refinements. Returned comments relative to the instrument were strongly favorable with few suggestions for change. The final form of the instrument, with suggested revisions, is submitted in Figure 1, page 52 as a rating scale to be duplicated and used by school staff interested in upgrading and improving instruction.

PERFORMANCE EVALUATION INSTRUMENT FOR TRADE AND INDUSTRIAL TEACHERS

This instrument was designed for supervisors to assist teachers in improving conditions to allow student to learn more while in classrooms and laboratories.

NAME OF TEACHER RATED _____ JOB TITLE _____ PERIOD OF RATING _____

SCHOOL _____ SCHOOL DISTRICT _____ PHONE NO. _____

Directions to Supervisors: Rate the teacher on each of the following categories with a check mark (✓) to indicate the degree of success of the teacher during the period of rating. Enter the numerical value in the column to the far right, then add the numerical value for a total score at the end of the instrument.

1. SPECIALIZATION (Trade Skills and Knowledge) PERFORMANCE					
Low 0 1 2	Acceptable 3 4 5	High 6 7 8	Outstanding 9 10	Unknown	Numerical Value
Teacher needs to take immediate action to learn latest skills of his trade.	*Satisfactory, however teacher needs to continue to update and develop skills and knowledge.*	*Above average; keeps up with latest development in the trade.*	*A recognized expert in the trade. Better than 90% of all vocational teachers.*		

2. SAFETY AND ACCIDENT PREVENTION					
Meager 0 1 2	Acceptable 3 4 5	Good 6 7 8	Very Good 9 10	Unknown	Numerical Value
Little or no indication of instruction. Students are ignorant of safety precautions.	*Safety precautions are included in the instruction, however, students sometimes violate the policies and procedures.*	*Instruction is obvious. Safety laws, signs, and posters are visible and up to date to reflect strong emphasis.*	*Better than 90% of all other Vocational teachers. Latest materials and information included in the instruction regularly and periodically for most effectiveness.*		

FIGURE 1

3. MOTIVATES STUDENTS TO LEARN					
Very Low 0 1 2	Acceptable 3 4 5	High 6 7 8	Exceptionally High 9 10	Unknown	Numerical Value
Students don't appear to be motivated. Many miss class often, arrive late and leave the program before finishing all course objectives.	*Most students appear motivated.*	*Students are motivated, they are prompt and attend class regular.*	*Better than 90% of all vocational instructors - Students appear eager to participate in the class.*		

4. ACHIEVEMENTS AND OBJECTIVES OF THE STUDENTS					
Very Low 0 1 2	Acceptable 3 4 5	High 6 7 8	Exceptionally High 9 10	Unknown	Numerical Value
Generally, students do not finish the training program or go into jobs or further training related to the program.	*Most students stay to finish and generally get jobs related to the training they received.*	*Program is successful. Students finish and move into related jobs or further education.*	*Most students stay to finish the program then are highly successful when they leave. This program is better than 90% of all other Vocational Programs.*		

5. LABORATORY FACILITIES AND SUPPLIES ORGANIZATION AND ADMINISTRATION PROCEDURES					
Poor 0 1 2	Acceptable 3 4 5	Good 6 7 8	Very Good 9 10	Unknown	Numerical Value
Seems to be no formal organization or formulated procedures. lab structures unorganized, untidy and dirty.	*There is order in execution, however, the system should be refined for greater efficiency in the student learning activities.*	*The lab equipment is always in highly usable condition. Students know the procedures and they work very smoothly. Supplies are usually available to avoid delay in training.*	*Better than 90% of all other vocational programs. Budget is well planned and executed, supplies are ordered in advance. Little time and materials wasted by students because of this efficient system.*		

FIGURE 1 (Continued)

6. ORGANIZED INSTRUCTION					
Meager 0 1 2	Acceptable 3 4 5	Good 6 7 8	Excellent 9 10	Unknown	Numerical Value
Very little organization in the classroom or laboratory instruction.	*Teaching content is kept up to date in the course of study. Student assignments sequenced and executed in a logical procedure.*	*Teaching content, student assignments and a variety of tests available for easy use.*	*Better than 90% of other vocational teachers. Course of study, lesson plans, student assignments and measuring instruments neatly filed and organized for efficient use.*		

7. RECORD KEEPING SYSTEM					
Lax 0 1 2	Acceptable 3 4 5	Good 6 7 8	Very Complete & Accurate 9 10	Unknown	Numerical Value
Need for better system to prevent loss of tool materials and supplies.	*System allows recording and inventory of student progress and facilities, supplies and tool security.*	*Records such as students progress charts, supplies, equipment records and tool inventory complete and easy to use.*	*Student achievements, machines and tool maintenance and care, supply inventory, accident reports and other records very complete. Better than 90% of all vocational teachers.*		

FIGURE 1 (Continued)

8. UTILIZATION OF LATEST TEACHING TECHNIQUES AND PROCEDURES					
Underdeveloped 0 1 2	Acceptable 3 4 5	Good 6 7 8	Outstanding 9 10	Unknown	Numerical Value
Needs to develop more skills for instructing and measuring the instruction.	*Appears to be successful using only a few different techniques and procedures.*	*Uses a variety such as lecture, demonstration, project, problem and performance oral and written exams.*	*Skillfully uses a variety of instruction and measuring techniques in achieving highest student results. Enthusiastic and demonstrates a strong positive attitude toward teaching.*		

9. COOPERATION WITH OTHER SCHOOL STAFF					
Limited 0 1 2	Good 3 4 5	High 6 7 8	Very High 9 10	Unknown	Numerical Value
Reluctant to cooperate and difficult to work with others.	*Agreeable.*	*Congenial and helpful to others.*	*Makes very positive effort to cooperate and contribute.*		

10. EFFICIENT, RELIABLE AND RESOURCEFUL					
Low 0 1 2	Good 3 4 5	High 6 7 8	Outstanding 9 10	Unknown	Numerical Value
Demonstrates low efficiency in the school and classroom.	*Average performer.*	*Positive, prompt and functional as an educator.*	*Always energetic and makes worthy contributions.*		

SUGGESTIONS FOR IMPROVEMENT:

TOTAL SCORE _____

FIGURE 1 (Continued)